



Expertise – Passion – Automation



**Innovation show 2024**

# A cylinder that can be extended, retracted, adsorbed, and retained by vacuum power

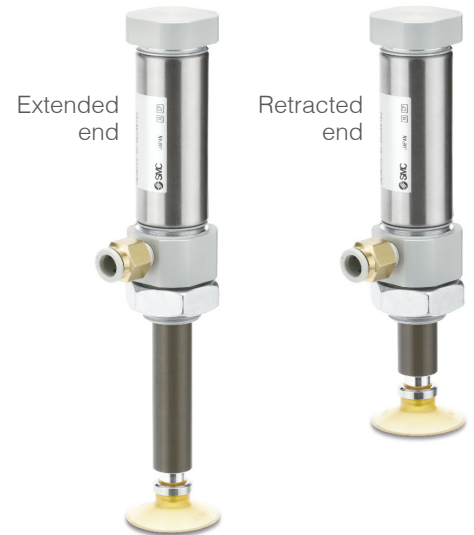
## Vacuum adsorption cylinder

CM2-DCZ8974Z

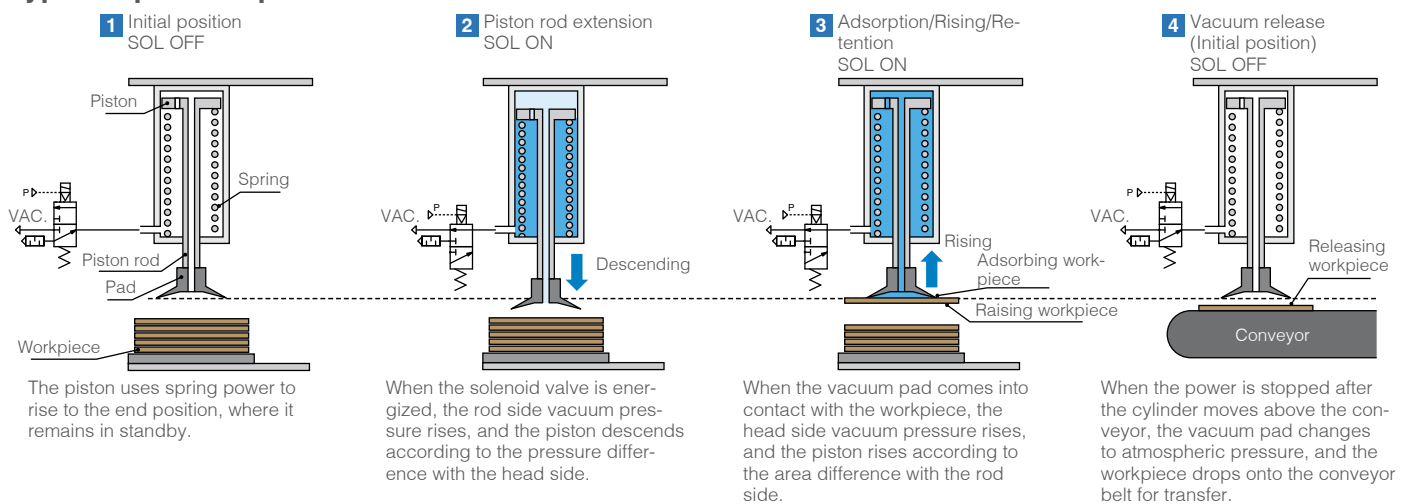
Specialised product

### Main features

- ▶ Cylinder extension, workpiece adsorption, retraction, and workpiece retention is all possible by vacuum suction
- ▶ Changing the height of the cylinder is not required as long as the cylinder stroke is within the allowable range
- ▶ Simplified control process (Control circuit for retraction not required)
- ▶ Piston rod retracts immediately after workpiece adsorption for improved cycle time



### Typical operation pattern

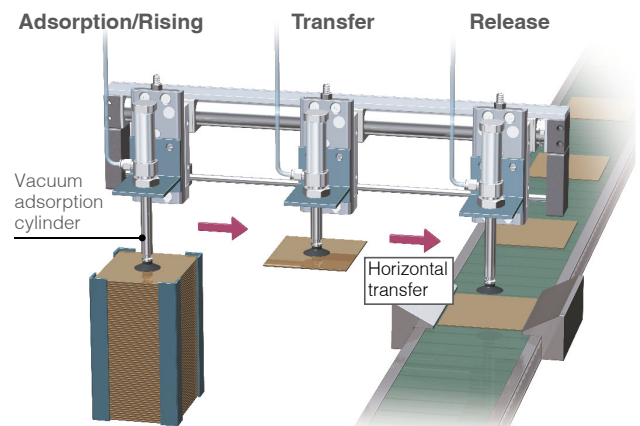


### Specifications

Bore size	25 mm
Stroke	40 mm
Operation pressure <sup>1)</sup>	-50 kPa
Cushion	Head-side rubber bumper
Mounting orientation	Vertical downward
Mounting bracket	Basic (Rod-side bossed)
Load (Theoretical lifting force) <sup>2)</sup>	Approx. 1.32 N
Vacuum pad part no. <sup>3)</sup>	ZPS32UU

- 1) The operating pressure is a representative value based on the load (theoretical lifting force) at -30 kPa, -50 kPa, or -70 kPa.
- 2) The theoretical lifting force changes depending on the supplied vacuum pressure.
- 3) The pad shape and material are compatible with other models.

### Application examples



#### ⚠ Caution

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# Integrated collet and air gripper Allows for reduced centring and collet assembly time

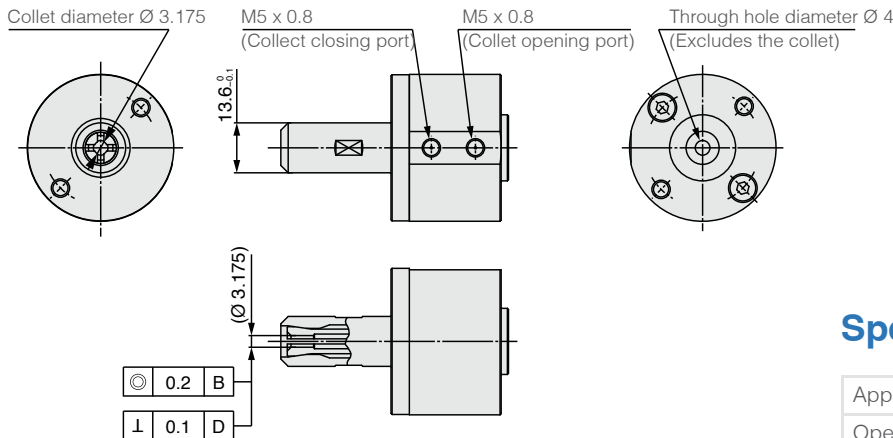
## Collet chuck

MHS4-X3874B

Specialised product

### Main features

- ▶ Repeatability:  $\pm 0.05$  mm
- ▶ With through hole:
  - Can be used for air purging
  - Removes foreign matter from the collet and prevents adhesion
- ▶ Grips the exterior of small-diameter, cylindrical workpieces



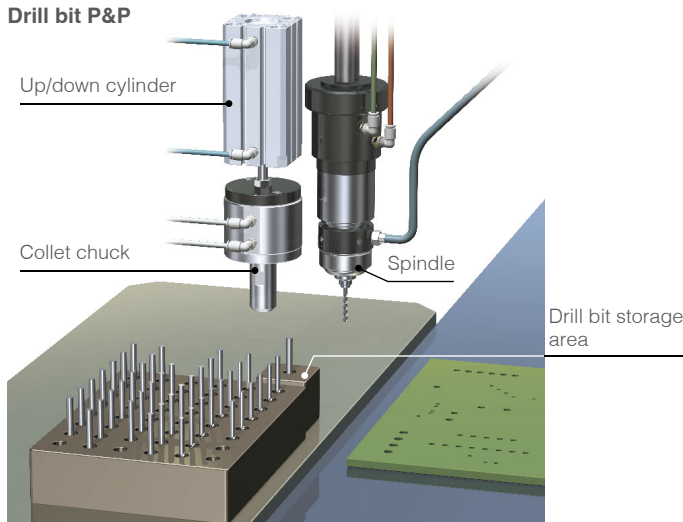
### Specifications

Applicable workpiece diameter	$\varnothing 3.175$
Opening/Closing stroke	0.5 mm ( $\varnothing 3.0$ to $\varnothing 3.5$ )
Operating pressure	0.4 to 0.7 MPa
Cylinder bore	$\varnothing 25$
Weight	140 g

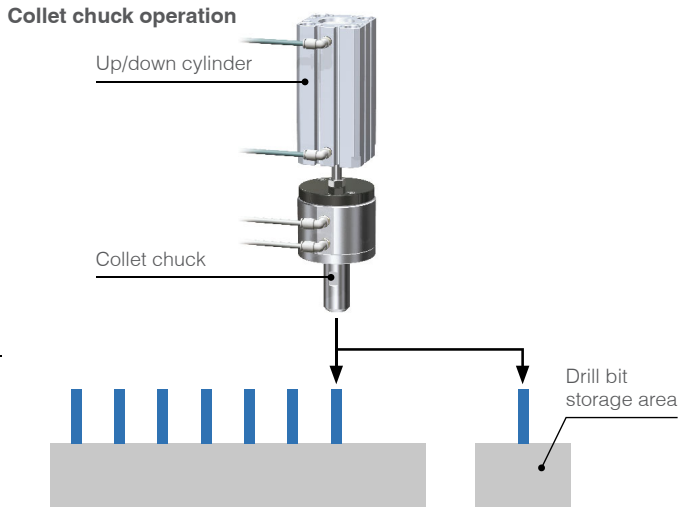
### Application examples

#### Printed circuit board drilling machines

##### Drill bit P&P



##### Collet chuck operation



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# Can be stopped at 4 points of any angle

## Rotary table

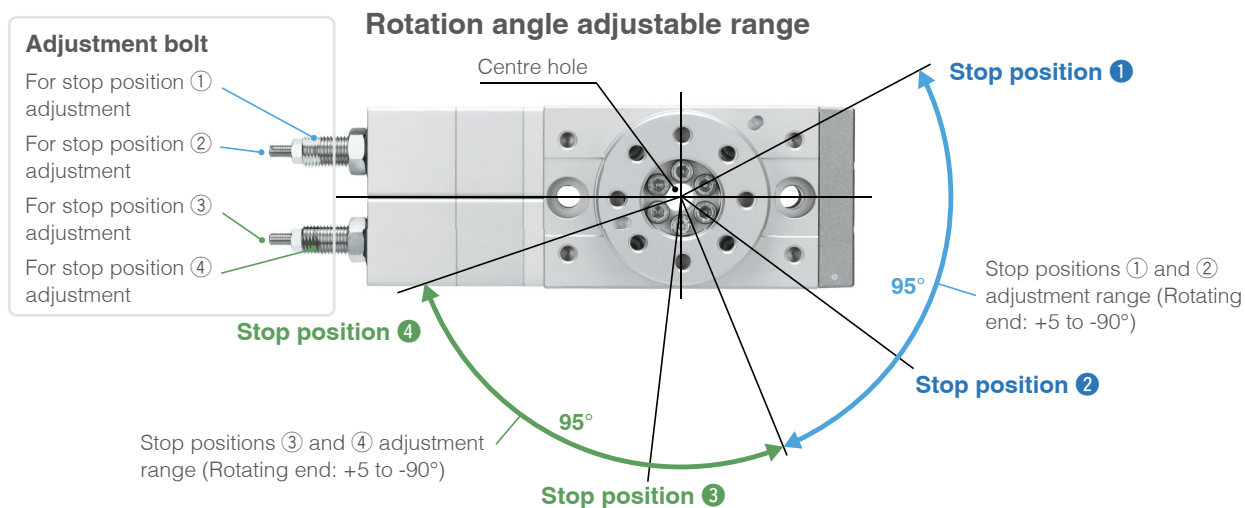
MSZB50AX-X5

Specialised product

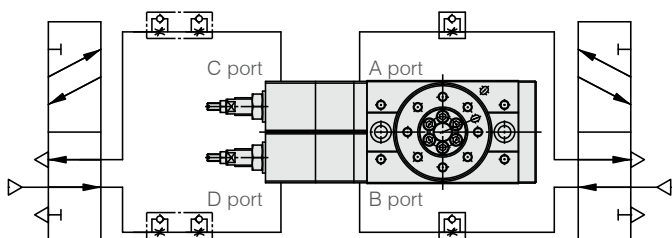


### Main features

- ▶ With only 2 valves and a speed controller  
Achieves 4-point stopping via adjustment

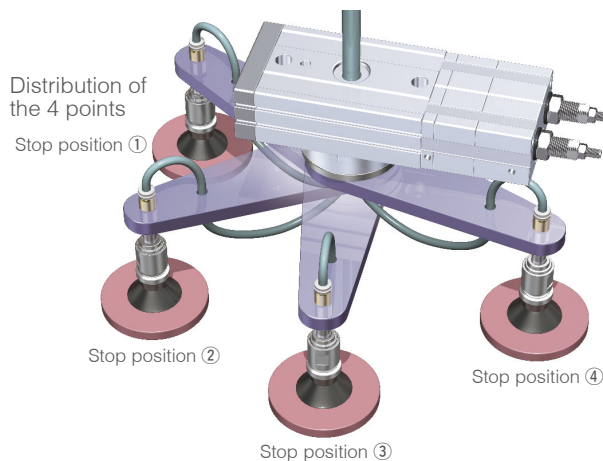


- ▶ Interchangeable with the dimensions of the existing MSZ series product



Stop position	Pressure port			
	A port	B port	C port	D port
①		●		●
②		●	●	
③	●			●
④	●		●	

### Application examples



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# Minimum speed: 1 mm/s

## e-Actuator

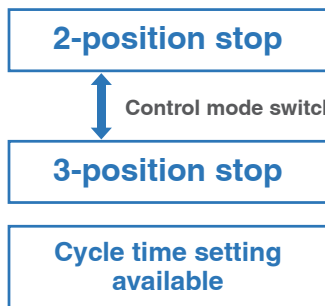
### Easy to operate integrated controller rod type

Battery-less Absolute (Step Motor 24 VDC)

EQY□H-XA11

Specialised product

#### Main features

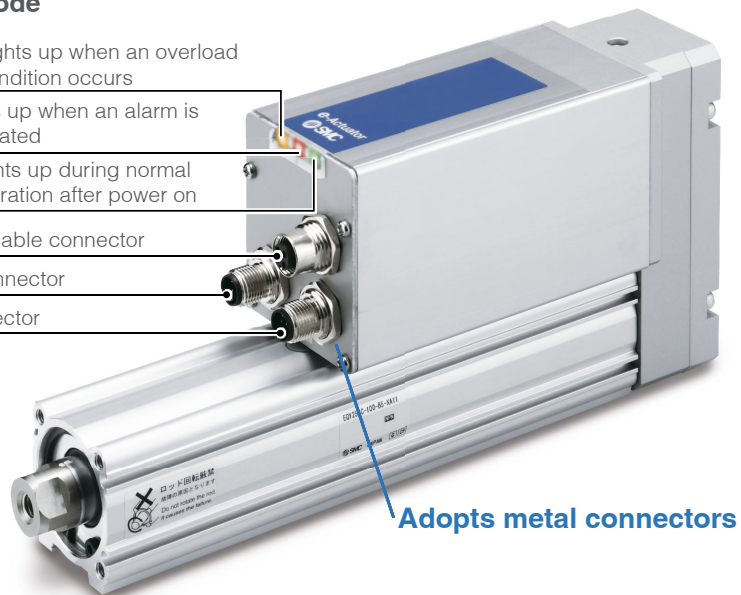


- ▶ Single solenoid mode
- ▶ Double solenoid mode
- ▶ Closed centre mode

*Easy to set up, just like air equipment!*

Rod type  
Size: 25, 32  
**EQY□H-XA11**

- OVL Orange**: Lights up when an overload condition occurs
- ALM Red**: Lights up when an alarm is generated
- PWR Green**: Lights up during normal operation after power on
- Communication cable connector
- Power supply connector
- Parallel I/O connector

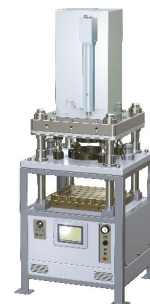


#### Specifications

Size		25	32	
Screw lead [mm]		3	4	
Work load [kg]	Horizontal	70	100	
	Vertical	30	46	
Pushing force [N]		232 to 452	296 to 707	
Speed [mm/s]	Up to 300	-XA11	1 to 225	1 to 200
		Standard	5 to 225	6 to 200
	350 to 400	-XA11	1 to 150	1 to 160
		Standard	5 to 150	6 to 160
450 to 500	-XA11	—	1 to 160	
	Standard	—	6 to 160	
Pushing speed [mm/s]		1 (Fixed)		
Positioning repeatability [mm]		±0.02		

#### Application examples

Servo-driven press machine



Replenishment unit (spring extended piston control)



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# Valves with different power supplies can be mixed

## Plug-in/Non plug-in mixed manifold

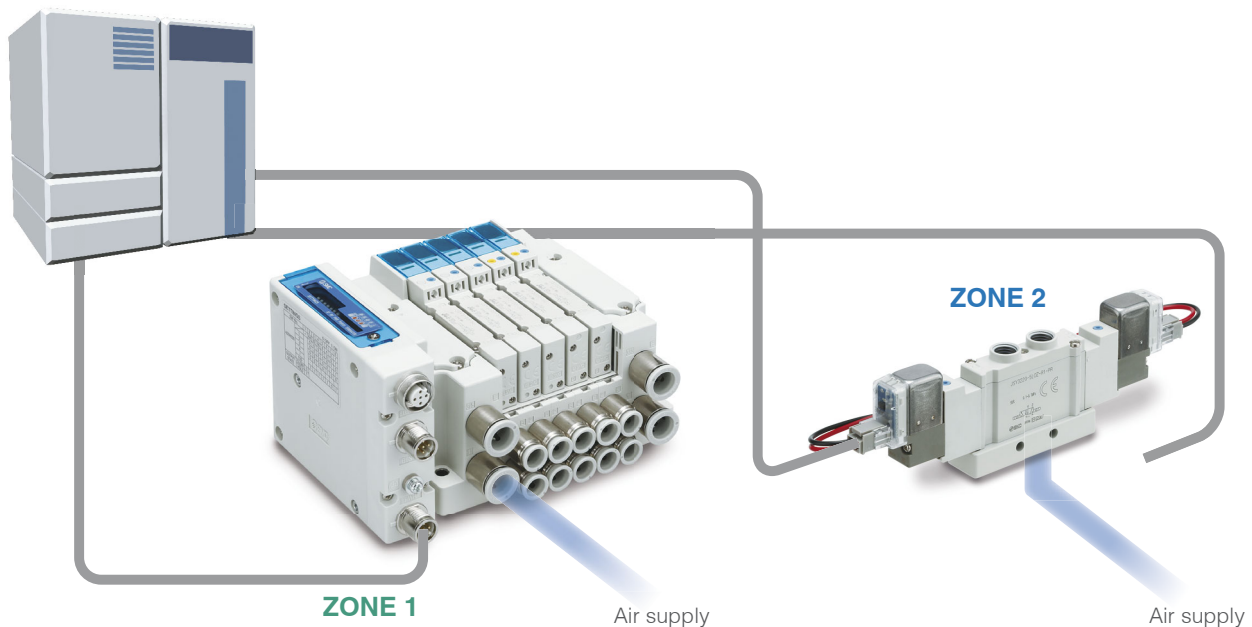
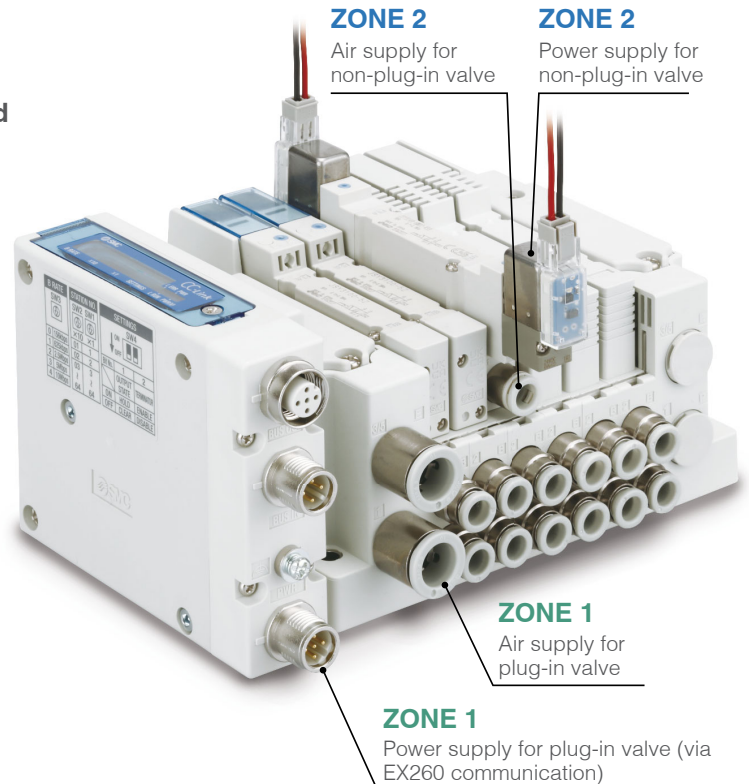
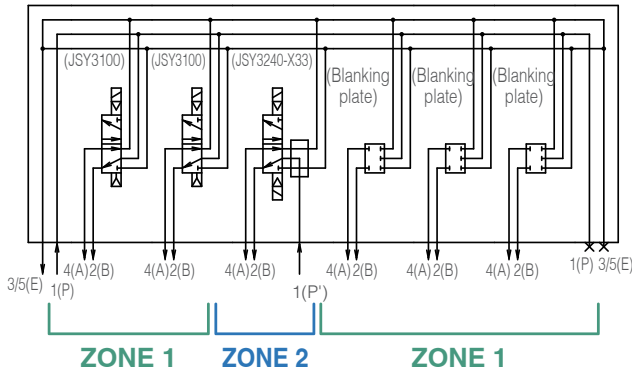
JSY3000 Series

Specialised product

### Main features

- ▶ **Plug-in valves** and **non-plug-in valves** can be mixed on the same manifold
- ▶ Power supplies and air supplies can be controlled separately

### Pneumatic circuit



# Can be used within the -40 to 85 °C ambient temperature range

## Filter regulator

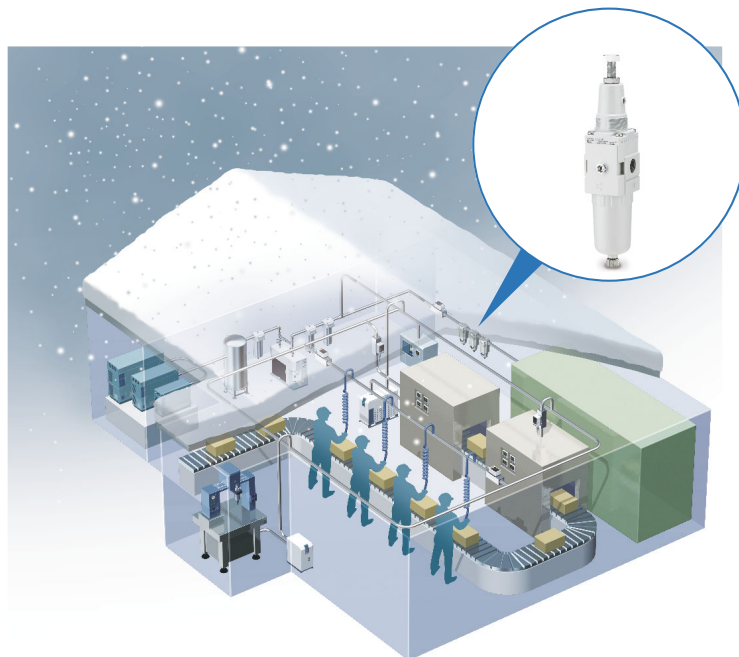
AW20-X2257 Specialised product

### Main features

- ▶ The bonnet and bowl have been changed to metal and the knob, nuts, and screws have been changed to stainless steel
- ▶ Uses low/high temperature grease

### Specifications

Proof pressure		1.5 MPa
Max. operating pressure		1 MPa
Set pressure range	Standard	0.05 to 0.85 MPa
	0.2 MPa setting	0.02 to 0.2 MPa
Fluid		Air
Ambient temperature		-40 to 85 °C
Fluid temperature		-5 to 60 °C (No freezing)
Filtration rating		5 µm



Knob, screw, nut:  
stainless steel





# Improved accuracy at 1 MPa or less

## Low-pressure / High-precision type

5.0 MPa maximum supply pressure

High pressure electro-pneumatic regulator

ITVX2030-X10

Specialised product

### Main features

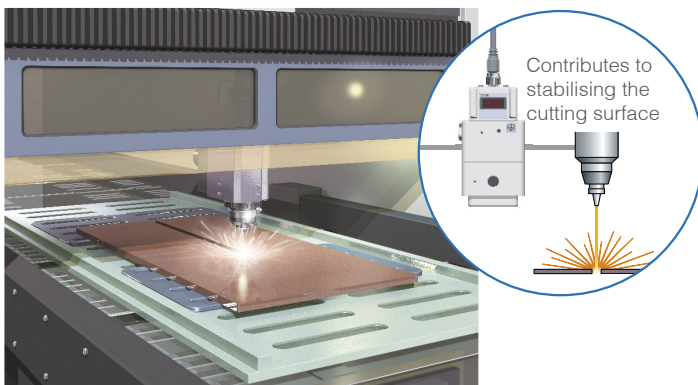
- ▶ Repeatability:  $\pm 0.5$  % F.S. or less
- ▶ Pressure stability: 0.5 % F.S. or less
- ▶ Max. supply pressure: 5.0 MPa
- ▶ Set pressure range: 0.01 to 3.0 MPa
- ▶ Max. flow rate: 3000 l/min (ANR)<sup>1)</sup>
  - 1) Supply pressure: 5.0 MPa Set pressure: 3.0 MPa
- ▶ Fluid: Air, N<sub>2</sub>, O<sub>2</sub><sup>2)</sup>, Ar
  - 2) When using O<sub>2</sub>, refer to "Fluid supply" in the catalogue at <https://www.smc.eu>
- ▶ Wetted parts: fluorine grease

Power consumption  
**3 W**  
or less

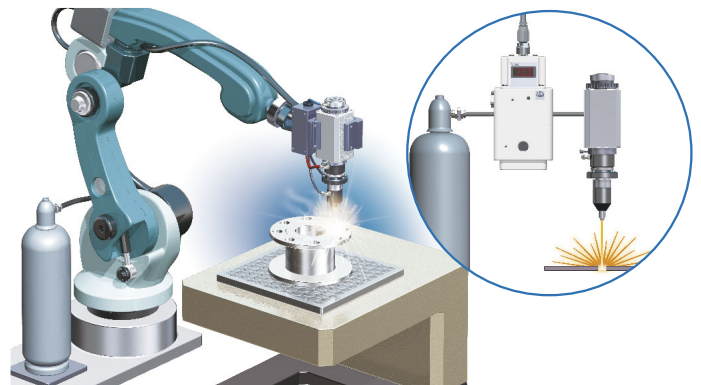


### Application examples

Laser beam machine



Laser welding



**⚠ Caution** This product is only for blowing gas. This product does not have sufficient pressure control for other applications (driving, sealing, etc.).

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# Air operated for remote signal operation

## Regulator for remote operation

XT13-207-□□

Specialised product

### Main features

- ▶ Port size: 3/4, 1
- ▶ Thread type: Rc, G, NPT

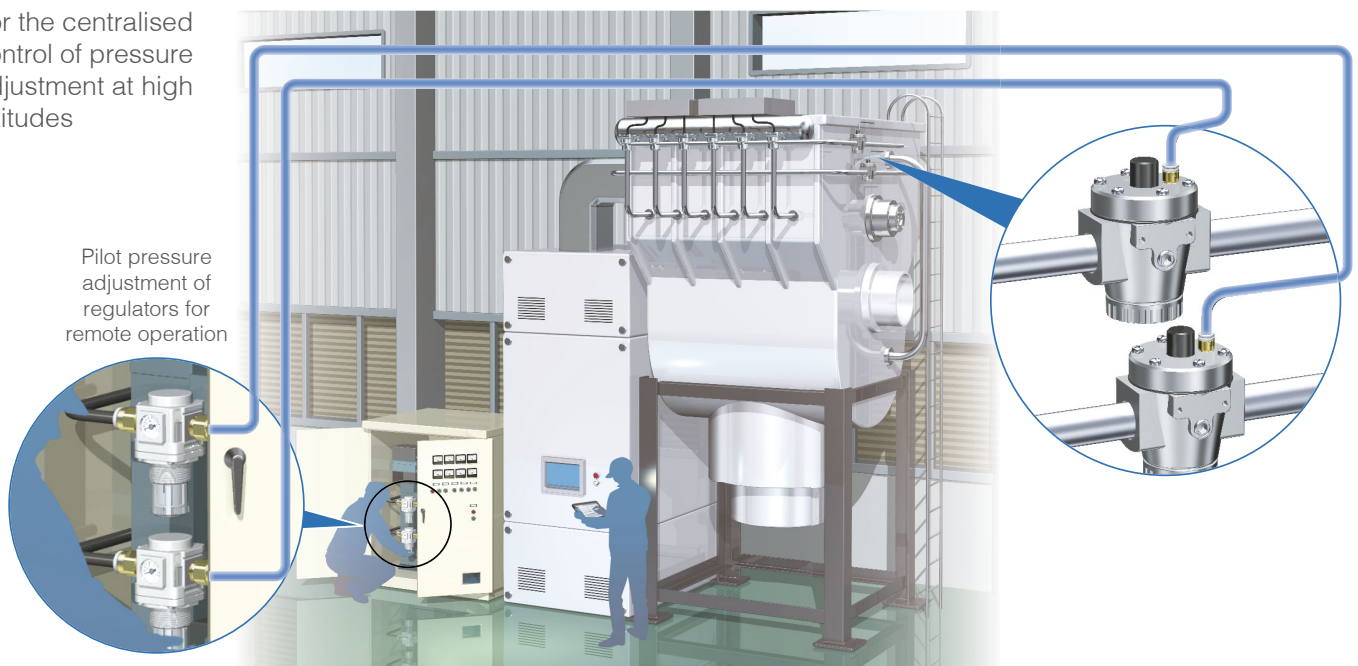
### Specifications

Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa
Regulating pressure range	0.05 to 0.83 MPa
Fluid	Air
Ambient and fluid temperatures	-5 to 60 °C (No freezing)



### Application examples

For the centralised control of pressure adjustment at high altitudes



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# Max. operating pressure: 15 MPa

## High pressure coolant check valve

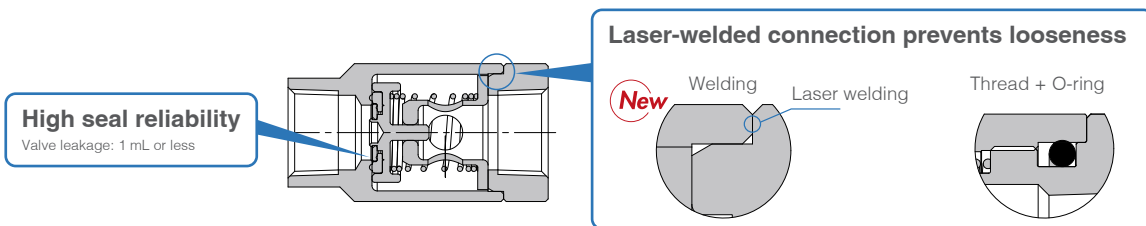
AK-DPY00025/26 Specialised product

### Main features

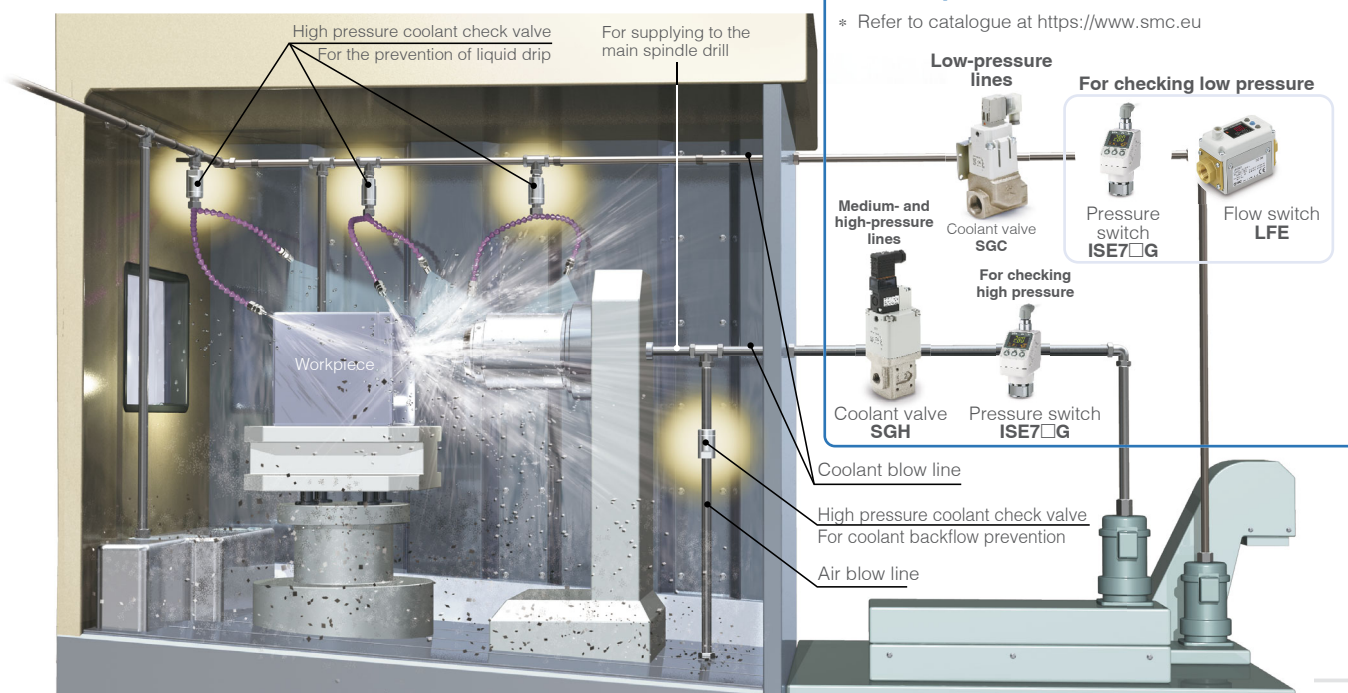
► Compact and lightweight



► Structure that prevents foreign matter from piling up around the main valve



### Application examples



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# Removes foreign matter that has entered the inside of the pad

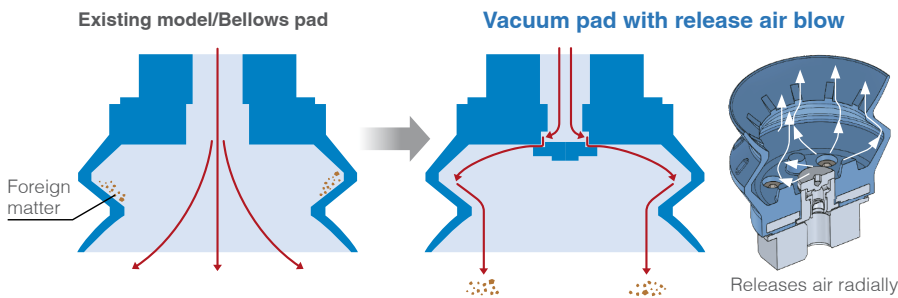
## Vacuum pad with release air blow

ZP-996-63BMUB-B12

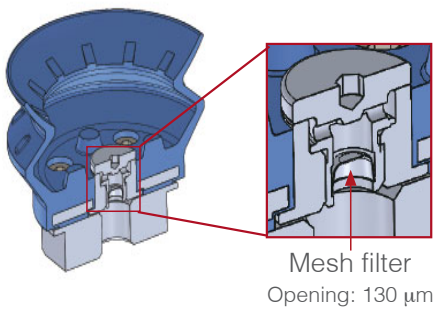
Specialised product

### Main features

- ▶ The amount of foreign matter adhered to the inside of the pad can

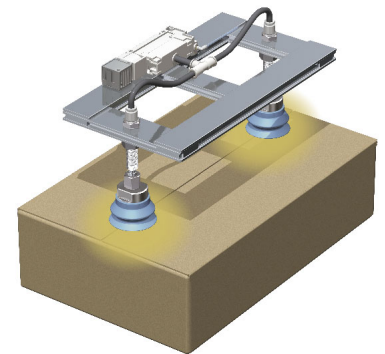
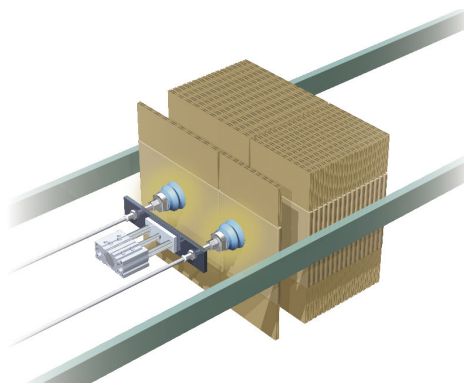
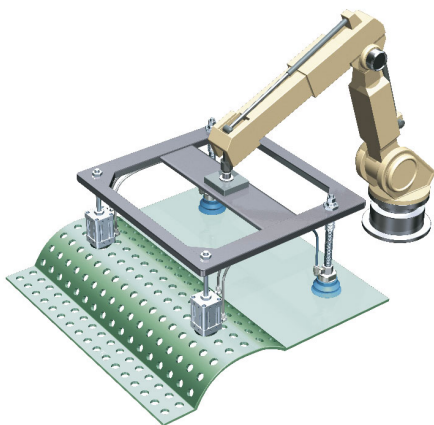


- ▶ The built-in mesh filter reduces the amount of foreign matter sucked into the product



### Application examples

For the adsorption transfer of dry machined workpieces  
 For the adsorption transfer of workpieces in dusty environments  
 \* Not applicable to workpieces containing oil



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# Suitable for high-load, heavy-wear workpiece adsorption applications

## High rigidity vacuum pad

ZP63HBFS-X2268

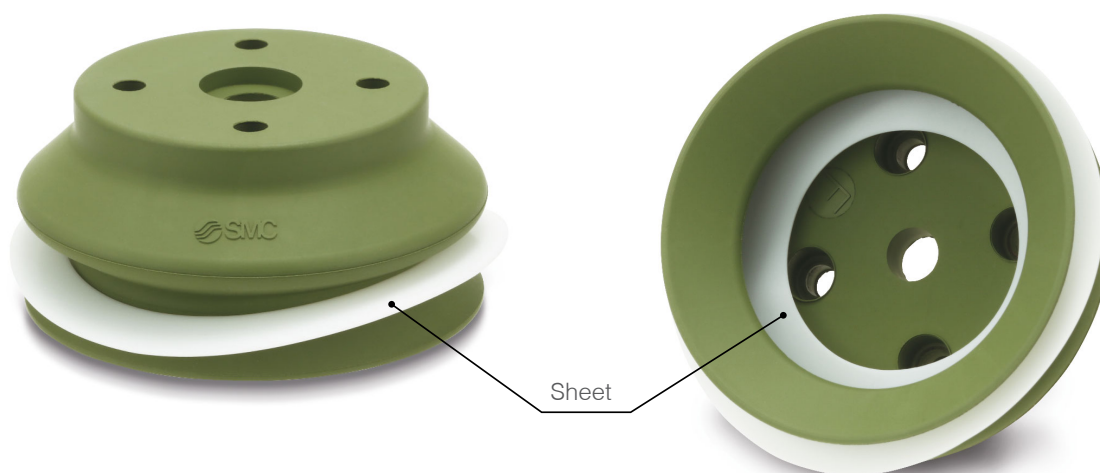
Specialised product

### Main features

▶ **Longer life (More than twice the life of urethane pads)**

Pad material: FS61 (Fluoro-based rubber) with excellent abrasion resistance  
Reduced number of pad replacements

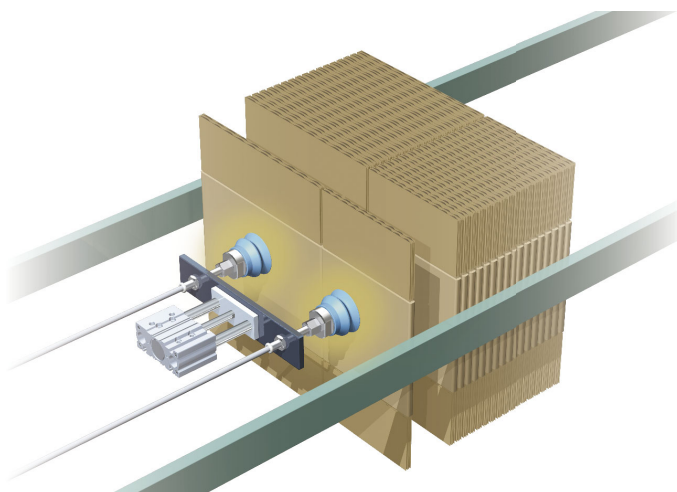
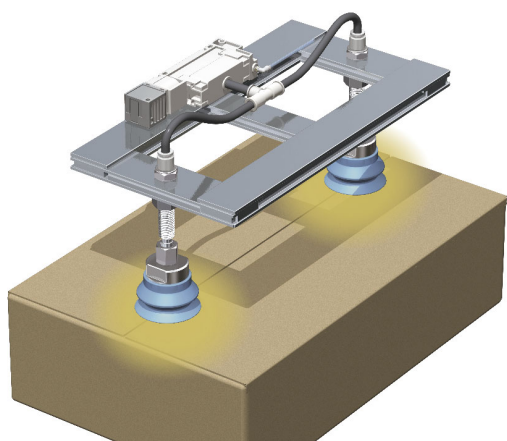
▶ **The stable adsorption of large and/or heavy workpieces is possible due to the improved pad strength**



▶ **A type with an inner and outer pad sheet can be selected to prevent the bellows from sticking**  
Reduces return failure when the vacuum supply is turned OFF for applications with long pressing or holding operations

▶ **Pad diameter: Ø 63**

### Application examples



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# Environmental resistance (IP67 enclosure), easy maintenance

## Resin pilot operated 2-port solenoid valve

JSXN-X1 Specialised product

### Main features

- ▶ **Body material: high-strength PA66**
- ▶ **Piping type: docket (Vinyl chloride tube), taper thread for piping (Rc, NPT, G)**
- ▶ **Fluid <sup>1)</sup>: water, diluted pesticides, and liquid fertilisers**  
 1) Liquids that do not corrode the materials of the fluid contact parts
- ▶ **Water hammer relief type**
- ▶ **Seal material: NBR/FKM/EPDM**
- ▶ **Power saving: power consumption 3 W**
- ▶ **Easy maintenance with no tools required**  
 Filter can be cleaned

#### With flow rate adjustment function

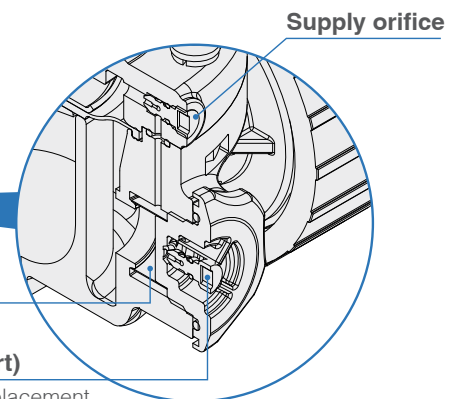
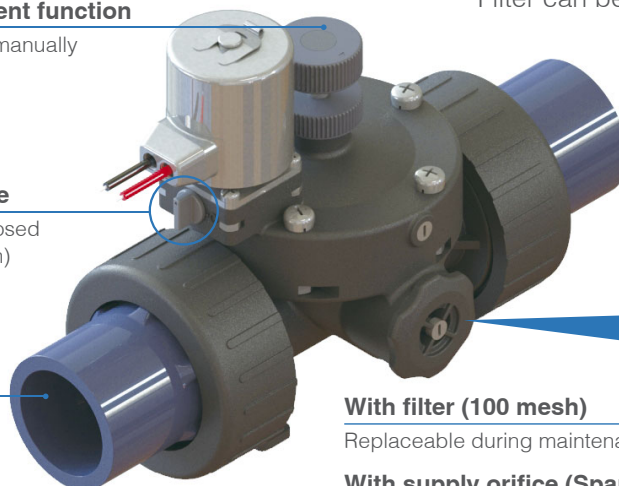
Flow rate can be adjusted manually

#### With manual override

Valve can be opened/closed manually (by 90° rotation)

#### Socket

I.D. Ø 26.5/Ø 32.6



#### With filter (100 mesh)

Replaceable during maintenance

#### With supply orifice (Spare part)

Speedy recovery is possible by replacement

### Application examples

Nutrient solution supply line



Agricultural irrigation



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# High-accuracy measurement of low-flow areas

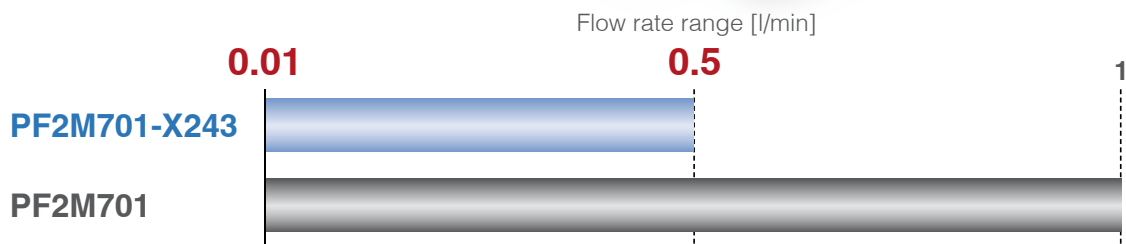
## Microflow flow switch

PF2M701-X243

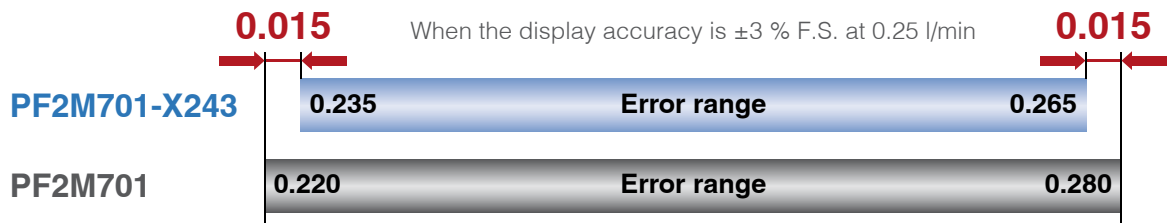
Specialised product



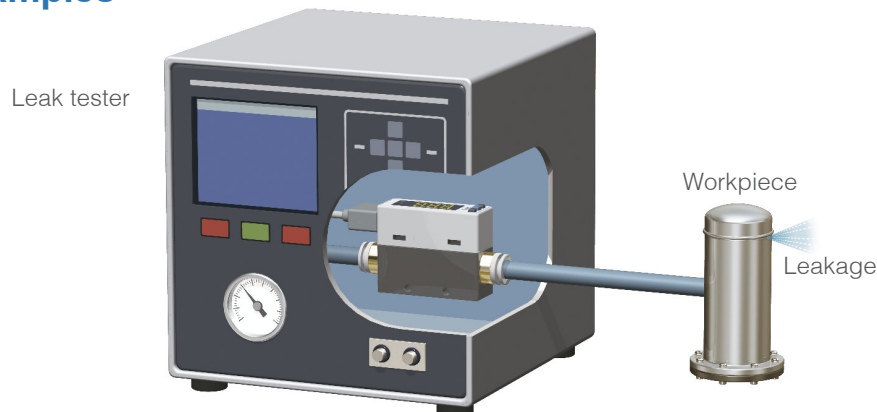
Rated flow range



High precision



## Application examples



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# For controlling the temperatures of maturation and fermentation tanks

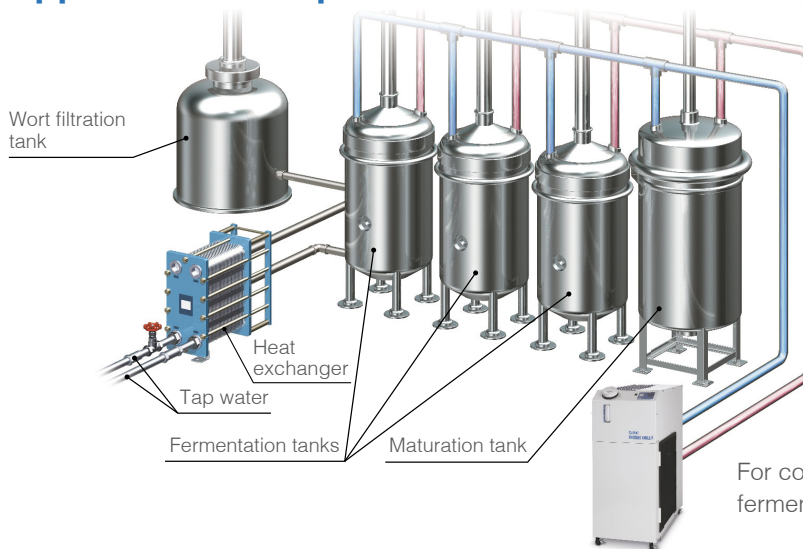
## Thermo-chiller

INR-493-012, HRS040-A-20-T1-X166,  
INR-493-010 Specialised product









### Main features

- ▶ Set temperature range [°C]
  - Cooling down to -10 to -5 °C is possible
  - Heating up to 30 to 40 °C is possible.
- ▶ Circulating fluid: Propylene glycol aqueous solution 30 wt%

### Application examples



For controlling the temperatures of maturation and fermentation tanks as well as heat exchangers!

Tank capacity	No. of tanks	1 tank	2 tanks	3 tanks	4 tanks	6 tanks
300 L 						
500 L 		INR-493-012		HRS040-A-20-T1-X166		
600 L 						
1000 L 		HRS040-A-20-T1-X166				INR-493-010

#### ⚠ Caution

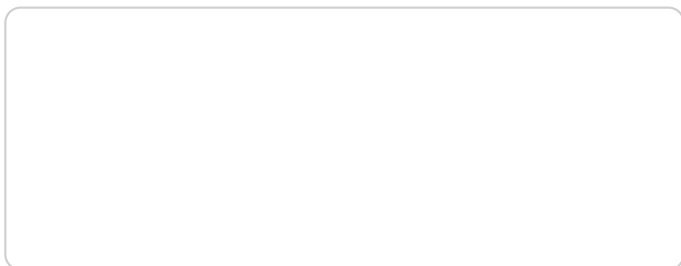
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Expertise – Passion – Automation

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<b>Sweden</b>	+46 (0)86031240	www.smc.nu	smc@smc.nu
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