

PRODUCTS GUIDE

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- Tube Series
- Plarailchains Series



PISCO supplies wide variety of pneumatic equipment supporting all industrial activities.



NIHON PISCO applies the most thoroughgoing quality management to all its products.

This means that pneumatic equipment of NIHON PISCO reaches our customers all over the world after clearing the most exacting inspection of all its processes of design, development, production, sales and after-sale service. And we make sure that the voice of users are fed back into our production and reflected in our products. NIHON PISCO also obtains ISO 14001 certification and actively participates in environmental management activities.



PISCO's Quality Policy – Slogan
To win customer's trust and satisfaction.

ISO 9001 certified
(1994:8)
[International standards for quality assurance]



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Compression fitting
Barb joint



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Parailchains Series

Cable, hose protecting and guiding devices



Environmental Policy - Slogan
PISCO, Doing its best to Help Keep the Earth Health!

ISO 14001 certified
[Environmental management systems]

-S3

Products with the above mark on this catalog have an optional selection of the following specifications.
Optional S3 specification: "No copper alloy" and "Low level ozone resistance" are available. No copper alloy is applied for metal parts and Low level ozone resistance is considered for seal rubber.



Fitting Series

Tube Fitting



- This quick-fitting joint is used in pneumatic piping.
- The Tube Fitting comes in a wide variety of models to meet all your needs in pneumatic piping.
- Clean wash specification, best suitable for various production processes where foreign particles and oil are not welcome, is prepared. (Option for Clean-room Package specification)

Specifications

Fluid admitted	Air, water (conditional)	
Max. pressure range	145psi	1.0MPa
Negative pressure range	-29.5in. Hg	-100kPa
Service temperature range	32 ~ 140°F	0 ~ 60°C

Tube Fitting Mini-Type



- This ultra-small quick-fitting joint is used in pneumatic piping.
- The quick-fitting joint is 40% smaller than the standard type Tube Fitting.
- The elliptical, ultra-small release ring facilitates connecting and disconnecting the tube.
- Tube diameter is available from 1.8mm.

Specifications

Fluid admitted	Air	
Max. pressure range	145psi	1.0MPa
Negative pressure range	-29.5in. Hg	-100kPa
Service temperature range	32 ~ 140°F	0 ~ 60°C

Minimal Fitting



- The Minimal Fittings are ultra-small, barbed joints for pneumatic piping.
- Minimal Fittings are optimal for piping vacuum equipment.
- Minimal Fittings are most suitable for small equipment and/or space saving piping.

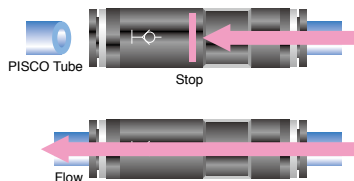
Specifications

Fluid admitted	Air	
Max. pressure range	Compression type	145psi 1.0MPa
	Barb type	73psi 0.5MPa
	With vacuum tube	58psi 0.4MPa
Negative pressure range	-29.5in. Hg	-100kPa
Service temperature range	32 ~ 122°F	0 ~ 50°C

Stop Fitting



- The flow-shut mechanism will operate to stop the air flow when the tube is disconnected and allow air flow when the tube is connected.
- Easy tube connection with double-passage structure.



Color Cap



- Color caps can be used for identification of different applications of the joints.
- Installation of cap to a tube fitting with which the release-rings adjoin each other is possible. (Union Y: PY, etc.)
- Lock function built-in cap for oval or round release-ring of Tube Fitting Mini-type.



Rotary Joint



- The Joints incorporating a bearing, are suited for fast swiveling and swinging connections.

Allowable No. of revolutions

Tube dia.	ø4, ø ⁵ /32	ø6, ø ³ /16, ø ¹ /4	ø8, ø ⁵ /16
r.p.m	500	500	400
Tube dia.	ø10, ø ³ /8	ø12, ø ¹ /2	
r.p.m	300	250	

High Rotary Joint



- The High Rotary, employing two bearings, is suitable for high-speed swiveling and swinging connections where the Rotary Joint cannot cover.

Allowable No. of revolutions

● RHC, RHL type

Tube dia.	ø4, ø ⁵ /32	ø6, ø ³ /16, ø ¹ /4	ø8, ø ⁵ /16
r.p.m	1500	1200	1200
Tube dia.	ø10, ø ³ /8	ø12, ø ¹ /2	
r.p.m	1000	1000	

● RHF, RHS type

Thread size (R, R1)	01	02	03	04
r.p.m	1200	1200	900	900

Multi-Circuit Rotary Joint



- Best suitable for piping of index tables or other rotary equipment.

- A single block can serve 4 circuits, 6 circuits or 8 circuits.

Number of circuits

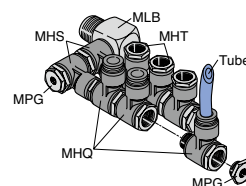
Code	4	6	8
Circuits	4 circuits	6 circuits	8 circuits

Main Block



- This assembly type manifold is used in concentrated branching.

- For the same flow rate, the outer dimensions of Main Blocks are about a half of those of the steel piping.



2-Circuit Junction Block



- This add-on type concentrated branching joint serves two lines the same time.
- The Block can be added freely to the other by simply fitting in.
- With the 107 series, the air outlet can be positioned in any desired side direction.
- The release ring can have different color for each line.
- Any number of Blocks can be added when used with cylinders.
- The Junction Block can be used for circulating cooling water of about 40°C (104°F). (Use the insert ring.)

Light Coupling



- The Socket comes with a stop mechanism that stops air flow with the removal of the plug.
- As an option the plug comes with either a silencer to reduce noise when its disconnected or a check valve to prevent residual pressure released.

E3, E7 Series



15 Series



20 Series

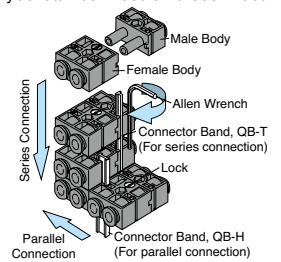


Connector



- With connectors, you can connect or disconnect multiple pipings simultaneously, making it easy to move or maintain the equipment.

- With connector bands, multiple connectors can be stacked in series or parallel for simultaneous connection of pipings.



Tube Fitting Stainless SUS316 Series



- Push-in fitting made of SUS316, which is highly resistant to corrosion.
- Best suitable for industries of food processing, chemicals, medical care, semiconductor manufacturing.

Tube Fitting Stainless SUS316 Compression Fitting Series



- Compression fitting made of SUS316, which is highly resistant to corrosion.
- Best suitable for not only chemical industries but also for special environments requiring airtightness.

Tube Fitting Stainless SUS304 Series, Stainless SUS303 Equivalent Corrosivity Series



- Push-In Fitting of corrosion resistant stainless steel SUS304.
- SUS304 Series serves best where strength is required or the atmosphere contains chemicals. And SUS303 Equivalent Corrosivity Series is best suitable for corrosive atmosphere.

Minimal Fitting Stainless SUS303 Equivalent Corrosivity Series



- This ultra small barb fitting is best suitable for requiring corrosive resistance or use in chemical atmosphere where space-saving piping is required.
- Compared to conventional model, the size is max. 15% smaller to the height. (Subject models: Female Screw Banjo / SLH, Female Screw Banjo Tee / SLB)

Tube Fitting Chemical Series



- The chemical specification fitting is the answer multifarious needs in various fields of application.
- The fitting is made of PPS (polyphenylene sulfide) which possesses excellent heat resistance, noncombustible and chemical resistant. The seal is made of fluorine rubber.
- No need to worry about rust because these joints are 100%-resin products. Since they conform to the Food Sanitation Act and are completely oil-prohibited specifications, they are perfect for food-related applications.

Tube Fitting EG



- The Tube Fitting EG series are anti-static type quick-fitting joints.

Fitting Series

Tube Fitting Anti-Spatter



- The joint made of a flame-retardant resin is highly resistant to spatters. (UL94 V-0 equivalent)
- The cover prevents malfunction of the release ring due to spatter.
- These joint models can be used with anti-spatter tubes also.

Tube Fitting Brass



- Not only the body but also the release ring is made of brass, so that these models feature excellent flame resistance, heat resistance and spatter resistance.
- The models with the cover prevent the entry of spatter, dust or dirt into the joint. This advantage will be complemented by the use of anti-spatter tubes.

All Brass Compression Fitting



- Best suitable for Auto Industry and Thermal Control for mold tooling.
- By using special brass in the main metal body, this product line has achieved the high resistant performance against water corrosion.
- It does not require connecting sleeve, therefore, no more need to worry about installing or missing sleeves.

Tube Fitting PP Series, SUS303 Equivalent Corrosivity



- Suitable for clean environment as PP (Polypropylene) is applied for the body material.
- Screw material can be chosen from PP, SUS304 and SUS303 Equivalent depending on applications.
- No metal component is exposed to fluid admitted. (Except for SUS304 and SUS303 equivalent screw type.)
- Clear (semitransparent) color used for the resin body makes it possible to confirm visually the fluid (liquid) inside.
- Add inch size selection.

Tube Fitting Clean-room Ready

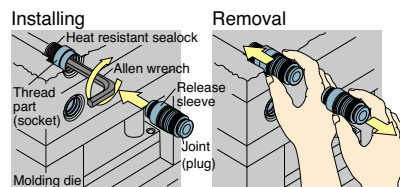


- Non-spattering lubrication is used in clean-room ready tube fittings.
- Standard, mini and minimal type fittings and Minimal Fitting Stainless SUS303 like Corrosivity Series are available.

Die Temperature Control Fitting



- Joint part can be separated from the threaded part. (Die Temperature Control Fitting)



Fluororesin Fitting

New



- Realizes high pull-out strength, sealability, chemical and heat resistance. Suitable for chemical liquid piping in semiconductor manufacturing process.
- This item is NOT available for U.S.A market.
- Clean washing and clean packaging realize ISO class 6 cleanliness.

Control Series

Speed Controller Series



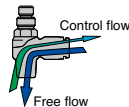
- Speed Controllers regulate the operation speed of pneumatic actuators.
- A variety of types is available. Standard type, Large flow type for high speed operations. Low flow type for low speed or fine tune of operation speeds, and Constant flow type for low cost solutions or tamperproof environments.
- Clean-room Package, best suitable for speed control in cleanroom, is prepared. (Optional)

Speed Controller Large-Flow type

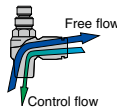


- Best suitable for high-speed operation cylinder.
- For the same overall dimensions as the standard type speed controllers, it can control large flows.

A: Meter-out control



B: Meter-in control



Speed Controller Low Flow-Rate type



- With the number of needle rotations increased, very fine adjustments to the pace of low-speed cylinders in the "low" speed range has become possible.
- Since free flow rates are equivalent to those of standard products, return strokes can be driven at high speed.

Constant Flow Speed Controller



- This speed controller fixes the operation speed of driving device.
- It is best suited for use with mass-produced dedicated machines.
- Orifice bore from 0.1mm to 2.0mm is available in increments of 0.1mm.

2-stage Speed Controller



- Industry's First!** (Patent no. 5578502) The function of a shock absorber is built in the speed controller.
- Shock absorber is not required. With realized 2-stage exhaust flow adjustment, a similar control as a shock absorber becomes possible.
- Durability is about 3 times of a normal cylinder mounting type shock absorber.
- Adjustment of shock absorbing property is possible by the adjustment of 2nd speed (EX2 (CUSHION)) flow rate.

Speed Controller SUS303 Equivalent corrosivity



- Best suitable for operating where strength is required or in corrosive atmosphere.
- No copper use is achieved by applying anti-corrosive SUS303 equivalent stainless steel.

Speed Controller Anti-Spatter



- A fire-resistant resin (Equivalent to UL94 V-0) is applied for the body material.
- Both needle and joint sections are covered to prevent spattering.

Speed Controller Brass



- Not only the body but the release ring is made of brass, thus best suitable for high heat and spatter environments.
- No cover type is also standardized for a variety of applications. No cover type is recommended for the applications which does not require spatter resistance.

Speed Controller PP



- PP (Polypropylene) is applied for the body material to adapt to clean environment.
- Clear (semitransparent) color contributes to check sanitary condition. The body color is clear (semitransparent).

Control Series

Slot-head Speed Controller



- Speed control needle head is stored inside to prevent inadvertent manual operation. Requiring a flat head screw driver to turn the needle (control speed).
- Comparing to the conventional standard speed controller, the compact sizing is realized by reducing the overall height to 2/3.
- Clean-room Package is available.

Speed Controller With Indicator

Coming Soon



- Adjust flow rate with indicator.
- Smallest speed controller with indicator in the industry.
- Push-lock knob adjustable even with one hand.
- Easy identification of control direction.

Needle Valve Series



- The needle valve controls the operation speed of a pneumatic device and the transmission of air pressure signals.
- The flow rate can be adjusted while the air is flowing.
- The needle with the stop mechanism ensures safety at full open.
- Clean-room Package, best suitable for speed control in cleanroom, is prepared. (Optional)

Needle Valve SUS316



- Needle Valve made of highly anti-corrosive SUS316 stainless steel.
- Best suitable for industries such as chemicals, medical care, semiconductor manufacturing, solar battery and secondary battery etc.
- All parts are oil-free specification and in compliance with the Food Sanitation Act in Japan.

Fluororesin Needle Valve

New



- Realizes high pull-out strength, sealability, chemical and heat resistance. Suitable for flow rate adjustment in semiconductor manufacturing process.
- This item is NOT available for U.S.A market.
- Clean washing and clean packaging realize ISO class 6 cleanliness.

Needle Valve Brass



- Not only the body but the release ring is made of brass, thus best suitable for high heat and spatter environments.
- No cover type is also standardized for a variety of applications. No cover type is recommended for the applications which does not require spatter resistance.

Needle Valve PP

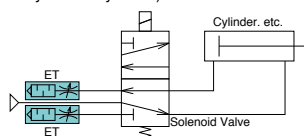


- PP (Polypropylene) is applied for the body material to adapt to clean environment.
- Clear (semitransparent) color contributes to check sanitary condition. The body color is clear. (semitransparent)

Needle Valve ET



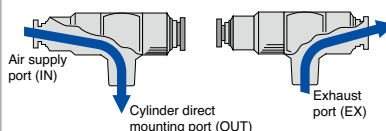
- This Exhaust Needle Valve controls the exhaust flow rate.
- This valve is less expensive than the speed controller.
- Best suitable to install where a cylinder or like mechanism has no sufficient space around for a speed controller or adjustment of the needle. (Note: Install the valve not far away from a cylinder.)



Quick Exhaust Valve Series



- Compact quick exhaust valves for high speed operation of pneumatic actuators.
- The quick exhaust valves come with built-in tube fittings.
- Quick exhaust valves can also be used as shuttle valves.
- With the adjusting needle on the exhaust port, you can regulate the speed of the actuator.



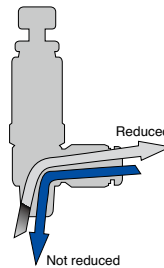
Fixed Orifice Joint Regulator



- The fixed orifice controls air flow.
- Orifice bore: Selectable from $\phi 0.1$ to $\phi 2.0$ mm in increments of 0.1mm. (Effective cross sectional area: from 0.006mm² to 2.5mm²) The fixed orifice fitting is available in 20 orifice sizes.
- Low cost compared to needle valve. Further, it can be installed in a small space.



- When the primary pressure is introduced from the thread side, a reduced pressure comes out from the joint side.
- The Regulator comes with a relief mechanism that facilitates adjustment of devices.



Pressure Controller



- When the primary pressure is introduced from the thread side, a reduced pressure will come out from the joint side. If the primary pressure is introduced from the joint side, the same pressure will come out from the thread side because of the operation of the check valve. Therefore, the pressure controller can control the pressure for advance and return of an actuator.

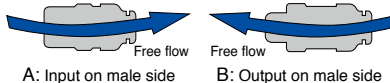
Check Valve



- The check valve permits the air to flow in only one direction and maintains the output pressure at constant level.
- The check valve operates as low as -100kPa (1.45 psi or -29.5 in.Hg) in vacuum.

Resin Type

- A new line-up of cost performance Resin made Check Valve compared to conventional metal type.



Check Valve, Check Valve PP for low operating pressure



- Securing of air flow becomes possible at low pressure that the conventional valve does not operate.
- Cracking pressure has changed to 5kPa (0.005MPa) from 10kPa (0.01MPa) of standard type.
- Check Valve PP is applicable to water (Fluid). PP (Polypropylene) is applied for the body material to adapt to clean environment.

Silencer



- Three types of installation are available for your various applications.
- Anti-corrosion silencer element ensures long product life.

Taper Thread Type Metric Thread Type Push-in Fitting Type



In-line Union Filter



- With the same convenience as the conventional vacuum filters (VFU series), the filter can be used in the positive pressure as well.
- Best suitable for the applications in positive pressure where filtration accuracy is not required and easy maintenance.
- Optional -S3 specification: "No copper alloy" and "Low level ozone resistance" are available.

Hollow Fiber Membrane Filter



- By adopting the hollow fiber to the filter, the filtration accuracy of 0.01 μ m and, trapping efficiency of 99.99% has been realized.
- Best suitable for semiconductor, measuring instruments, printing and medical industries.
- Equipped with Blast shelter function, and Oil-free specification with stainless steel body is adopted as standard model.

Pressure Gauge



- Compact and lightweight pressure gauges can be installed in very limited spaces.

15 Series Straight Type Union Straight Type



Control Series

Digital Pressure Gauge



- Easy to check pressure reading with digital display.
- Compact body. Body size: Compact 30mm width x 30mm height.
- Dust & water proof: IP65
- A power saving mode is adapted. Battery life is about 3 years.

LED Digital Pressure Sensor



- A LED display is used for better visibility.
- Both set and measured pressures can be read on the display.
- Dual set-points type and analog output type are available.
- Tube fitting, M5 female thread and direct connections are available for installation.

8mm width LED Digital Pressure Sensor

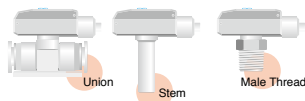


- Super slim! Light weight pressure sensor with a LED display. Size: 8 (W) x 34.3 (H) x 62.1 (L) (mm)
- All setting is managed with 2 push buttons.
- Character size on the LED display is 4.5mm high for better visibility.
- Energy saving mode type is newly added.

Small Pressure Sensor 11-series



- Sensor Heads and the indicator are separated. The indicator realizes a high level of visibility (Analog output type).
- Small sized sensor of 24.5mm length x 10mm width
- Three types of pressure introduction configuration is prepared.



Small Pressure Sensor 12-series



- Sensor Heads and the indicator are separated. The indicator realizes a high level of visibility (Analog output type). Connector type lead-wire contributes to easy wiring and maintenance.
- Small sized sensor: 25.4mm length x 8.5mm width
- Three types of pressure port configuration are prepared.
- 5 types of cable length are available.

Large Digital Pressure Sensor 31-32series



- Easily viewable LCD dual displays. High level visibility with 3-color display. 30mm x 30mm square pressure sensor.
- 2-color indication depending on output.
Main display: Pressure value (red or green)
Sub display: Setting value (orange)
- Built-in power saving mode reduces power consumption by 30%. Unless any button is pushed during power saving mode, the main display automatically enters power saving mode in 30 seconds.

Handy Manometer



- Thin, light weight and highly functional handy pressure gauge. Usability and convenience are pursued by palm top design.
- Easily viewable large display is employed. 3 & 1/2 digits LCD display.
- Three types of pressure range are available. Compound gauge pressure, compound gauge pressure (low range) and absolute pressure indication models are selectable depending on the applications.

Flow Sensor FUS20 series



- Flow management and suction lift verification of small work piece are possible.
- Flow adjustable needle valve and sensor are integrated into one unit. Fuss-free plumbing and minimized installation space are realized.
- Panel mount is possible. Bracket for panel mount is available.
- Dual display / 2 color indication feature
- Quick response time: Max. 50msec.
- High accuracy: Max. +/- 3% F.S.

Flow Sensor FUS8 series



- Best suitable for suction lift verification of small work piece.
- Ultra-small and light weight
Width: 8.5mm, Height: 24mm, Length: 41mm
Weight: 10.7g (for ø4mm push-in fitting)
- Non-linear type sensor suitable for suction lift verification

Air Filter



- The air filter is designed for draining and removal of foreign matter.(Element: 5 μ m)
- The plastic bowl guard does not corrode.
- The draining method is selectable between the push type and the auto drain type.

Mist Filter



- The mist filter is designed for removal of foreign matter as well as oil mist.(Element: 0.3 μ m)
- The plastic bowl guard does not corrode.
- The draining method is selectable between the push type and the auto drain type.

Micromist Filter



- The micromist filter is designed for removal of foreign matter as well as oil mist. (Element: 0.01 μ m)
- The plastic bowl guard does not corrode.
- The draining method is selectable between the push type and the auto drain type.

Filter Regulator



- The filter regulator is a regulator combined with a filter for removal of drainage and foreign material.
- 3 selections of pressure display



Pressure Gage



Digital Pressure Gage



Large digital display pressure sensor

Regulator



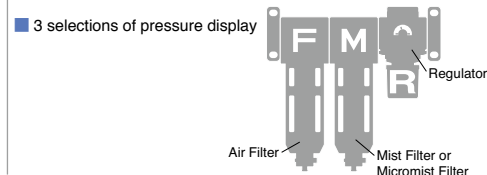
- With or without a pressure gauge and the handle position (Upper or down position) is selectable.
- 3 selections of pressure display

Filter and Regulator Combination Unit



- Modular type filter and regulator unit offers variety and easy maintenance.

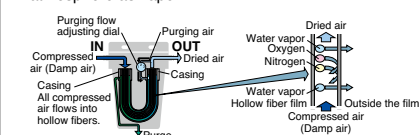
- Air filter and mist filter remove drainage, oil and dusts (Air filter : 5 μ m, Mist filter : 0.3 μ m, Micro-mist filter : 0.01 μ m).



Fiber Dry



- The Fiber Dry is a hollow fiber type air dryer and does not require any electricity.
- The Fiber Dry generates drier air than refrigerating dryers.
- No drain is required since the moisture is purged to the atmosphere as vapor.

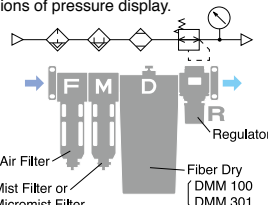


Only vapor in compressed air passing through the hollow fiber films is discharged and purged outside the system by the purging air (part of dried air).

Dry Unit



- Dry Unit comes with Fiber Dry, filters and regulators.
- Being pre-assembled, Dry Units can be easily connected to your air supply.
- 3 selections of pressure display.



Air Tank



- Reducing the air and vacuum pressure fluctuations and pulsations.

- The tank is made of stainless steel.
Tank capacity 0.4 ~ 10L: SUS304 equivalent.
Tank capacity 20L: SUS321 equivalent.

- Tank capacity is selectable from 6 variations.

Tank capacity(L)	0.4	0.75	2	5	10	20
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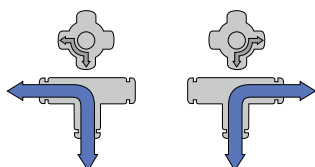
- This tank does not have any construction code for pressure vessels outside of Japan. Please check your local regulation before ordering it.

Valve Series

Change Valve



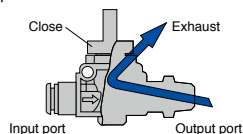
- The Change Valve switches the passages of air.
- The valve made of resin is compact and lightweight.
- This highly operative valve offers easy switching of fluid passages. (switching angle: 90°)



Hand Valve (Shut off Valve)



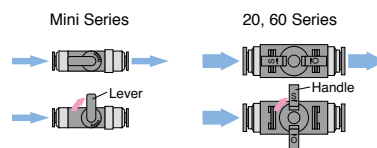
- The Hand Valve turns on and off air pressure to pneumatic devices.
- The three-directional control valve, when closed, discharges the residual pressure from the output side (device). The two-directional control valve does not have air discharge mechanism. Hand Valves come in four types for your applications.



Ball Valve



- The ball valve turns on and off the air pressure to the pneumatic equipment.
- When opened, the ball valve has no restriction of flow, thus acquiring the same flow rate as tubes.



SUS Ball Valve

New



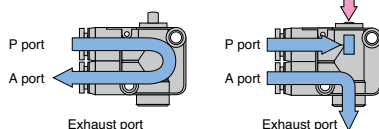
- SUS316 equivalent material for fluid contact part. Chemical and mixed gas can be used as fluid medium.
- No restriction for flow direction.

Mechanical Valve



- Compact and lightweight mechanically actuated valves
- Both 2/2 and 3/2 ways valves are available.
- Stable operating force with spool valve mechanism.

3 Ports Normally Open Type



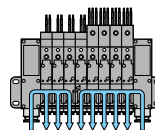
Solenoid Valve SVA20,21 Series



- Light weight, small and large-capacity solenoid valve. Effective sectional area of 18mm² for 16mm width valve is secured.

SVA20 Series(Manifold type)

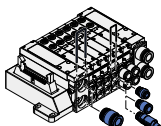
- Wiring is minimized by the manifold piping and concentrated wiring. And individual plug-in connectors of manifold piping are selectable.
- Dual-pressure-use type is prepared. This valve features a partitioned supply air port in its manifold and enables two different pressure to be controlled at the same time.



Solenoid Valve SVR Series



- Compact, yet keeps large capacity. Limited space can be utilized.
- Controlled pressure can be applied from 0MPa.
- The dimensions of manifold mount holes are same as ones of discontinued SVA 10 series.
- The replacement of intake and output port is easy. The cartridge joints can be changed only by pulling out the lock pins.



Solenoid Valve SVB Series



- Basic solenoid valves with excellent cost performance
- Push & lock type manual override for easy maintenance
- 5/2, 3/2 and 5/3 way valves are available.
- Two body colors, black or white, are available.

Sub-D connector



- Best suitable for space saving wiring for PISCO products. (Applicable PISCO products : Solenoid Valve SVR10, SVA20 series, Vacuum Generator VZ & External Vacuum Controller VZP)
- Selectability of cable lead-out direction (Fitting side or Valve side) permits wiring in limited space.

Actuator Series

Closing Gripper



- Compact and lightweight stainless steel grippers.
- The blank fingers can be installed on the gripper with a single screw.
- Spring-loaded floating type prevents the works from being damaged.

Opening Gripper



- Compact and lightweight stainless steel grippers.
- No dedicated fingers are needed for works of simple shapes.
- The work stopper assures stable gripping.

Parallel Gripper Multi-type

New



- High accuracy. Chucking on both inside and outside diameter is possible.
- Sensor mountable type realizes broad utility.

Parallel Gripper Basic type

New



- High accuracy. Chucking on both inside and outside diameter is possible.
- Basic type with right weight and compact body.

Harmo Gripper



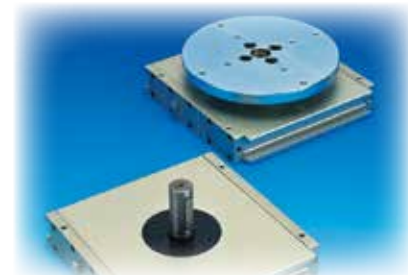
- Compact air gripper with large gripping force thanks to elliptical cylinder design.
- Lightweight gripper with engineering plastic body

Lever Type Gripper

Parallel Type Gripper



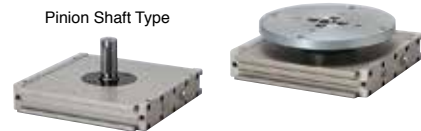
Rotary Actuator



- Ultra-thin rotary actuator
- Large torque with elliptical cylinder design

Rotary Disk Type

Pinion Shaft Type



Vacuum Series

Vacuum Generator

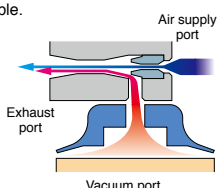


-S3

Vacuum Generators create vacuum from compressed air. Being used with vacuum pads, it is used in pick & place applications.

A variety of performance and installation types to meet your applications are available.

The compressed air supplied from the air supply port is formed into a high-speed jet by the nozzle and attracts the air from the vacuum port. And the attracted air is discharged together with the compressed air.



Vacuum Generator VRL



VRL conveys small, irregular materials, such as particles, powder and fibers on the air current.

The works sucked in from the suction port pass through the inside of vacuum generator enables conveyance of works through a tube.

An optimal vacuum generator can be selected according to the work size and quantity.

Suction flow rate (L/min[ANR])	50	100	200	300
Min. dia of flow channel (mm)	ø2.8	ø4.1	ø6	ø7.5

Vacuum Generator VVV



Multi-stage nozzle vacuum generator ensuring high vacuum pressure and high vacuum flow by low (0.35MPa) air supply.

Not only suction transport application but vacuum packing, defoaming, or deaeration application is also recommended.

Suction(Vacuum) flow rate is approximately 1.5 times of air consumption flow rate.

Vacuum port is distributed into 3 ports.

Large Flow Vacuum Generator VLM

New



Multi stage nozzle ejector ensuring high vacuum of -94kPa. Large suction flow rate of Max. 1,110L/min[ANR] with multi layer structure.

Excellent in ozone resistance.

Silencer installing direction is selectable.

Body can be fixed freely with two brackets.

Vacuum Generator VG



All-in-one type vacuum generator

Vacuum generator with standard built-in vacuum filter comes with optional vacuum making solenoid valve, vacuum release solenoid valve and vacuum sensor.

Vacuum Generator VK



Modular type vacuum generator

Wide variety of combinations to meet your specific vacuum requirements.

Vacuum making solenoid valve, both solenoid and air timer type release valve, mechanical and electronic vacuum switch are available.

Stand alone and manifold types are available.

Vacuum Generator VJ



All-in-one type vacuum generator.

Built-in pressure controller in vacuum release valve prevents lightweight work pieces being blown away from the vacuum pad.

Pressure release mechanism in vacuum release circuit for faster release of vacuum.

Double solenoid and single solenoid (Normally closed or opened) types are available with vacuum making solenoid valve.

Vacuum Generator VX



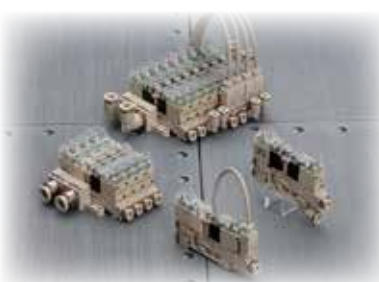
-S3

Extremely compact and lightweight all-in-one vacuum generator for fast cycle vacuum systems.

Double solenoid and single solenoid (Normally closed or opened) types are available with vacuum making solenoid valve.

Lightweight and compact in size; manifold series has been added to the VX type series which features a high-cycle vacuum system.

Vacuum Generator VN



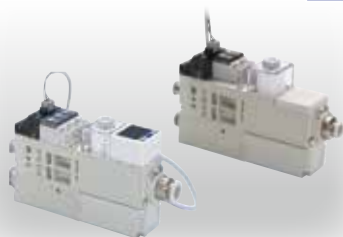
Space-saving Vacuum Generator best suitable for high-speed and stable response. The height is lowered for small space use.

High speed, yet stable response is realized. (ON/OFF=Max. 5msec.) Direct operated solenoid valve is used for the main valve.

Improve workability in plumbing and maintenance with a lead wire connector of the vacuum analog output sensor.

Vacuum Generator VQ

-S3



- 31.5-mm wide vacuum generator designed to optimize the control of large vacuum flows.
- Three different types of ejector system-compatible units are offered: a single-nozzle type, a two-stage nozzle type and a twin-nozzle type.
- The twin-nozzle type, which is easy to use, is the most durable unit for extended-duration vacuum adsorption and transport applications.
- The 2-stage nozzle type's vacuum suction rate has been increased by approximately 40% compared to conventional types.
- Reduce exhaust noise from 85dB to 78dB in a silencer exhaust type. (*Selected and tested a standard type by Pisco)

Vacuum Generator VZ



- Small in size and lightweight. Designed for dedicated use in combination with manifold, these VZ type vacuum generators are compatible with both ejector and vacuum pump systems.
- Featuring a built-in air pressure release valve, the VZ type vacuum generator is not only capable of releasing large quantities of air, but it can also substantially reduce vacuum release time.
- Wiring for the supply valve and air release valve is effectively concentrated in one bundle.
- Renew a pressure display. Improve visibility, workability and energy-saving. Reduce 20% of power consumption.

Rotary Vacuum Pump



- Rotary vacuum pump with high efficiency.
- Corresponding to energy saving. Pumping speed per wattage (power consumption) is top level in the industry. 1.0/1.2L/min. (pumping speed) /W (motor power) (50/60Hz)
- Light weight and compact. Specially designed rotor makes space saving possible.
- Low noise operation and low vibration are realized by balanced design on rotary units.
- Low heat generation, Long service life, and Low generation of dust.
- Environmental correspondence and safety design. Correspondence to RoHS and CE marking.

External Vacuum Controller VJP



- External Vacuum Controller controls vacuum and release air flow.
- Built-in pressure controller in vacuum release valve prevents lightweight work pieces being blown away from the vacuum pad.
- Pressure release mechanism in vacuum release circuit for faster release of vacuum.
- Double solenoid and single solenoid (Normally closed or opened) types are available with vacuum switching solenoid valve.

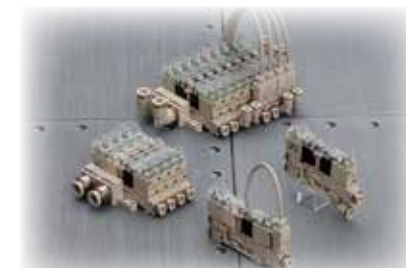
External Vacuum Controller VXP

-S3



- External Vacuum Controller controls vacuum and release air flow.
- The response characteristics of supply valve is maximized to realize a high-cycle vacuum system.

External Vacuum Controller VNP



- External Vacuum Controller controls vacuum and release air flow.
- Best suitable for the fields which requires space-saving and high speed.
- Applying direct acting valve does not require compressed air at vacuum supply.
- Improve workability in plumbing and maintenance with a lead wire connector of the vacuum analog output sensor.
- Renew a pressure display. Improve visibility, workability and energy-saving. Reduce 20% of power consumption.

External Vacuum Controller VQP

-S3



- External Vacuum Controller controls vacuum and release air flow.
- 31.5mm wide vacuum unit is designed to optimize the control of large vacuum flows.

External Vacuum Controller VZP



- External Vacuum Controller controls vacuum and release air flow.
- Small in size and lightweight. External Vacuum Controller with bundled wiring dedicated to manifold mount.
- Renew a pressure display. Improve visibility, workability and energy-saving. Reduce 20% of power consumption.

External Vacuum Controller VIP



- Built-in flow sensor type (Industry's first) is added to the lineup. Conventional pressure sensor mount type and no pressure sensor type are also prepared.
- Recommendable to semiconductor related equipment (chip mounter and handler) and vacuum transfer equipment for miniature work piece.
- Ultra small yet large vacuum flow control is possible. 8.5L/min[ANR] at vacuum supply -80kPa.

Vacuum Series

Suction Cup Standard Type

-S3



- General-type pad suitable for thick and flat work and Deep-type pad for spherical fruits (apple, etc.) or ball are available. Small-sized cup is applicable to semiconductor parts.
- Existing cup holder (A,B,C,D,E type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 0.7\text{mm}$ to $\phi 200\text{mm}$
- ◆ Pad material: 10 types
- ◆ Pad shape: 3 types (general-type, deep-type, small-type)
- ◆ Holder shape: 14 types

Suction Cup Sponge Type

-S3



- Best suitable for work like an external wall material of building, small stone and seashell.
- Existing cup holder (A,B,C,D type) are downsized and realized space saving.
- Sponge Type added silicone material has a stronger mechanical strength and a better abrasion resistance than the conventional type.
- ◆ Pad dia.: $\phi 10\text{mm}$ to $\phi 100\text{mm}$
- ◆ Pad material: 2 types
- ◆ Holder shape: 11 types

Suction Cup Bellows Type

-S3



- Best suitable for retort packagings or bags for packaged foods.
- Existing cup holder (A,B,C,D type) are downsized and realized space saving.
- Since the resin attachment is fit into our bellows suction cup, it can correspond to the inclined position of work.
- ◆ Pad dia.: $\phi 6\text{mm}$ to $\phi 100\text{mm}$
- ◆ Pad material: 8 types
- ◆ Holder shape: 14 types

Mark free Resin Attachment



Suction Cup Multi-Bellows Type

-S3



- Best suitable for inclined work, retort packagings or bags for packaged foods.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 10\text{mm}$ to $\phi 50\text{mm}$
- ◆ Pad material: 8 types
- ◆ Holder shape: 11 types

Suction Cup Oval Type

-S3



- Best suitable for long work like substrate or semiconductor.
- An extensive lineup for tiny work-piece.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad size: 13 type
- ◆ Pad material: 9 types
- ◆ Holder shape: 13 types

Suction Cup Soft Type

-S3



- Best suitable for extracting plastic products or conveying fragile work.
- By adopting soft rubber pad, plastic products can be conveyed with few residual marks.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 4\text{mm}$ to $\phi 40\text{mm}$
- ◆ Pad material: 5 types
- ◆ Holder shape: 16 types

Suction Cup Soft-Bellows Type

-S3



- Best suitable for extracting plastic products or conveying fragile work or paper.
- Dual side port type pad holder are newly introduced. The multiple pads can be connected in a line, so that it is best suited for the vacuum transportation using multiple pads by a single vacuum source.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 6\text{mm}$ to $\phi 20\text{mm}$
- ◆ Pad material: 6 types
- ◆ Holder shape: 16 types

Suction Cup Skidproof Type

-S3



- Optimal for transporting oil-coated components, such as press parts.
- Unique pad shape contributes to preventing pieces from skidding during transport.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 10\text{mm}$ to $\phi 50\text{mm}$
- ◆ Pad material: 5 types
- ◆ Holder shape: 11 types

Suction Cup Ultrathin Type

-S3



- Optimal for transporting thin components, such as paper, vinyl sheets.
- As the lip has been made thinner, not only has its adhesion to components been improved, but overlapping adhesion has also been minimized.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 8\text{mm}$ to $\phi 20\text{mm}$
- ◆ Pad material: 6 types
- ◆ Holder shape: 12 types

Suction Cup Flat Type

-S3



- Optimal for transporting thin work pieces such as sheets or vinyl and contributing to reduce deformation and wrinkling of work pieces.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 10\text{mm}$ to $\phi 30\text{mm}$
- ◆ Pad material: 6 types
- ◆ Holder shape: 11 types

Suction Cup Mark-free Type

-S3



- Best suitable for transporting LCD and transportation in painting and semiconductor manufacturing process.
- Release of work piece by blow-off has been improved.
- The resin suction pad is easily removed by a spanner and hexagonal key wrench from flexible adaptor without removing all unit from holder.
- Existing pad holder (A,B,C,D type) are downsized and realized space saving.
- ◆ Pad dia.: $\phi 10\text{mm}$ to $\phi 30\text{mm}$
- ◆ Pad material: 3 types
- ◆ Holder shape: 11 types

Suction Cup for Packaging Bag

New



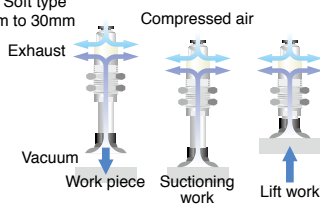
- Realizes followability to work-piece and posture stabilization during conveyance.
- Two selections of rubber hardness for lip part.
- Food safe complied, FDA* equivalent materials are used for work-piece attachment part.
*Note) This product is not FDA certified.
- ◆ Pad dia.: $\phi 30\text{mm}$ to $\phi 50\text{mm}$
- ◆ Pad material: 1 types
- ◆ Holder shape: 2 types

Vacuum Cylinder

Smart Product



- The vacuum cylinder is a vacuum pad incorporating a vacuum generator and cylinder. Let compressed air flow, and your work will be held and raised under suction.
- ◆ Pad dia.: $\phi 4\text{mm}$ to $\phi 40\text{mm}$
- ◆ Pad material: 3 types
- ◆ Pad shape: Soft type
- ◆ Stroke: 5mm to 30mm

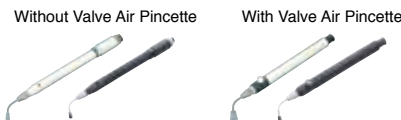


Air Pincette

Smart Product



- The Air Pincette, incorporating a Vacuum Pad and Vacuum Generator in the pen-shaped body, serves well in the assembly operation of small parts.
- VTB with a built-in valve features low noise and energy saving by flowing air only.
- Antistatic type has been newly introduced.



Vacuum Series

Vacuum Release Unit



- This is a vacuum release mechanism-equipped vacuum release unit designed for a comprehensive vacuum generator.
- This unit adjusts the vacuum release air retaining vacuum generators' vacuum characteristics as they are.
- By newly adding pressure adjusting function to flow adjusting function, it enable to prevent works from being blown away.

Vacuum Filter



- Installed between the Vacuum Pad and the Vacuum Generator, the filter removes dust and dirt having entered from the pad and thus prevents troubles of the Vacuum Generator.

Small-sized Vacuum Filter

- Minimum volume vacuum filters
Very effective for use in applications requiring high cycling rates.
- Two different sizes of filter elements (different filtering areas) can be selected depending upon the quantity of dust gathered and element replacement times.

Large Flow Vacuum Filter



- Flow rate: 360l/min[ANR]. Vacuum filter for large flow vacuum generators and vacuum pumps.
- Four types of filtration accuracy can be selected according to applications.

Small Vacuum Regulator



- Not only primary pressure, terminal pressure can be controlled.
- Best suitable for controlling primary pressure of small-sized vacuum pump.
- Installing between vacuum valve and vacuum pad, pressure control of individual pad is possible.
- 3 selections of pressure display

Free Holder



- When the adsorption surface of pad does not placed at a right angle against work piece and the angle is not stable, Free holder permits the pad to be inclined freely.

Fall Prevention Valve



- Even if a work piece drops, the vacuum for other work pieces are retained.
- New variations for pad diameter : $\phi 60$ ~ $\phi 100$ have been introduced. Details are released on PDF catalogue.

Tube Series

Polyurethane Tube



- Featuring excellent flexibility, best suitable for compact piping.
- 10 different colors available.
- ◆ Tube color:
Black, Red, Orange, Ocher, Yellow, Green, Blue,
Clear blue, Transparent, Milk-white
- ◆ Size: 14 sizes (Inch sizes are available.)

Soft Polyurethane Tube



- Because of ultra soft property, the installation to a narrow space and use requiring a small bending radius are possible.
- ◆ Tube color:
Clear black, Clear orange, Clear yellow, Clear green,
Clear blue, Transparent
- ◆ Size: 5 sizes

Air Exclusive Polyurethane Tube



- This polyurethane tube has achieved 20% cost saving compared to conventional Polyurethane Tube (UB).
- Featuring excellent flexibility, best suitable for compact piping.
- ◆ Tube color:
Black, Clear blue
- ◆ Size: 6 sizes

Low-Friction Polyurethane Tube



- The polyurethane tube, featuring excellent flexibility, helps compact piping requiring small bending radius.
- Tubes come in a variety of colors so that pipings can be identified by color or can be completed in the same colors as the devices.
- The friction factor is one third (1/3) of PISCO Polyurethane Tube standard type.
- ◆ Tube color:
Black, Yellow, Green, Blue, Milk-white
- ◆ Size: 5 sizes

Nylon Tube



- For higher pressure and larger flow. Featuring excellent pressure resistance, Nylon tube can be used under high pressure.
- Tube comes in a variety of 9 colors.
- ◆ Tube color:
Black, Red, Orange, Ocher, Yellow, Green, Blue,
Clear blue, Milk-white
- ◆ Size: 11 sizes (Inch sizes are available.)

Soft Nylon Tube



- For small bending radius. Featuring excellent pressure resistance, Soft Nylon tube can be used under high pressure.
- Tube comes in a variety of 12 colors.
- ◆ Tube color:
Black, Red, Orange, Ocher, Yellow, Green, Blue,
Clear blue, Milk-white, Brown, Yellow green, Pink
- ◆ Size: 6 sizes

Vacuum Tube



- Featuring excellent flexibility, best suitable for the piping in swinging parts.
- Best suitable for compact piping requiring small.
- ◆ Tube color:
Transparent
- ◆ Size: 5 sizes

Multi-core Planar Tube



- Best suitable for double acting actuators requiring multi-core piping.
- ◆ Tube color:
10 color combinations
- ◆ Size: 6 sizes

Soft Multi-core Planar Tube



- Featuring ultra soft property, best suitable for double acting actuators requiring simple piping of multiple lines.
- ◆ Tube color:
6 color combinations
- ◆ Size: 5 sizes

Tube Series

Polyurethane Coiling Tube



■ Featuring flexible urethane tube, best suitable for piping of air tools.

- ◆ Tube color:
Black, Red, Orange, Ocher, Yellow, Green, Blue,
Clear blue, Transparent, Milk-white
- ◆ Size: 6 sizes

Nylon Coiling Tube



■ Featuring resilient nylon tube, best suitable for piping of air tools.

- ◆ Tube color:
Black, Red, Orange, Ocher, Yellow, Green, Blue,
Clear blue, Milk-white
- ◆ Size: 5 sizes

Twin Coiling Tube



■ This coiling tube has two cores. The twin coiling tube permits compact piping for moving parts.

- ◆ Tube color:
10 color combinations
- ◆ Size: 6 sizes

Fluororesin (PFA) Tube



■ Superior chemical and weather resistance makes Fluororesin Tube best suited for chemical, food-processing, medical care and semiconductor applications.

■ Superior interior surface smoothness, transparency and purity.

■ Extensive service temperature range.

- ◆ Tube color:
Transparent
- ◆ Size: 12 sizes(Inch sizes are available.)

Fluororesin (FEP) Tube



■ Compared to our SFT tube, we successfully reduced cost by 44% average.

- ◆ Tube color:
Black, Transparent
- ◆ Size: 12 sizes(Inch sizes are available.)

Polyamide Tube



■ Polyamide Tube, which satisfies the Food and Additives Standard (Welfare Ministry Notice No. 370) in Japan, can be used for food processing.

- ◆ Tube color:
Milk-white
- ◆ Size: 9 sizes

Clean-room Ready Tube



■ Products are processed and packaged under clean-room conditions, and stored in clean-room conditions of class 1,000 or below.

■ Delivered in antistatic deaeration package to minimize sticking dust.

- ◆ Tube color:
Transparent

Polyolefin Tube



■ Adopting a polyolefin type resin suitable for clean environment.

■ Compared to Soft Polyolefin tube, it is suitable for application requiring sufficient flow rate.

- ◆ Tube color:
Black, Clear red, Clear yellow, Clear green, Clear blue,
Clear white
- ◆ Size: 8 sizes(Inch sizes are available.)

Soft Polyolefin Tube



■ Adopting a polyolefin type resin suitable for clean environment.

■ Compared to Polyolefin tube, it is suitable for applications requiring flexible piping.

- ◆ Tube color:
Black, Clear red, Clear yellow, Clear green, Clear blue,
Clear white
- ◆ Size: 8 sizes(Inch sizes are available.)

Anti-Spatter Tube



■ This tube covered with flame-retardant resin (V-0 equivalent) exhibits an excellent spatter resistance.

- ◆ Tube color: Black
- ◆ Size: 5 sizes

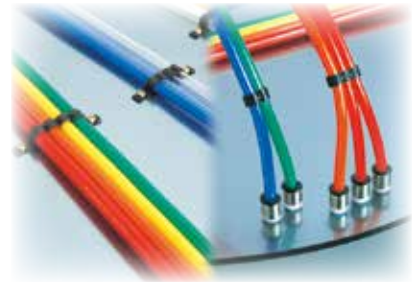
Antistatic Tube



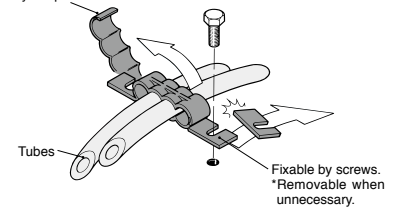
■ The Antistatic Tube is best suited for use on the manufacturing or assembly line that requires dissipation of static electricity and prevention of electrification. It proves more effective when used in combination with the Antistatic Tube Fitting. (Volume resistance: $1.4 \times 10^9 \Omega$).

- ◆ Tube color: Black
- ◆ Size: 6 sizes

Tube Binder



■ Tube Binder can easily bind multiple tubes. Easy to open and close.



Insert Ring



■ The Insert Ring, inserted in a tube, prevents the tube from contracting.

■ Even a very soft tube can be used with the Tube Fitting, if the Insert Ring is inserted in the connecting portion of the tube. (UD tube, etc.)

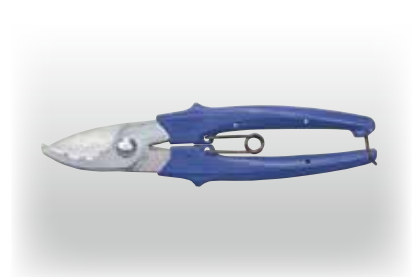
■ The Insert Ring should be used when water is supplied to the Tube Fitting.

Tube Cutter



■ New blade edge is ready just by rotating double sided angle blade 180 degree.

Tube Shears



■ Tube Shears is capable of smoothly cutting tubing for pneumatic piping.

Anti-spatter Tube Cover Peeler



■ Peeling only the flame-retardant cover of PISCO anti-spatter tube (FB tube) like sharpening a pencil.

■ No damage to the inner tube.

■ The transparent body enables to check cutting progress easily.

Tube Reel



■ It is very easy to reload / replace tubes.

■ 4 types of reels are available in accordance with the tube diameter to be used.

Plarailchains Series

Plarailchains HPU Series



- Flaps open and close on either side.
- Visual check of the contents with the flaps closed

Plarailchains HPO Series



- Full cover type flaps prevent entry of dust.
- Flaps open and close on either side.

Plarailchains HPK Series



- Simple design for OEM
- No flaps

Plarailchains HPM Series



- Full cover type plarailchain for OEM

Plarailchains HPE Series



- Two sections with built-in divider
- Each section has its own flap for easy access.

Plarailchains HPC Series



- Easy access with flexible flaps
- No special tools required opening the flaps. (Flaps need to be cut before first use.)

Plarailchains SP Series



- Durable plarailchain thanks to its new design and material
- New design and material gives better protection to the contents. (Compared to our conventional model, new material used in SP series reduce wear and tear of the contents by 75 to 80%).
- Contents divider and shelves are available.
- Anti-static type, best suitable for the environment where static electricity should be dissipated, is available. (SP1520, SP2035, SP25□)

Plarailchains SPO Series



- The Full-cover type Plarailchains protect cables and hoses from dust.
- Special resins reduce wear and tear of cables and hoses inside by one-fourth to one-fifth of conventional model.
- The flap opens on either side and the flap on reverse side opens as well.

Plarailchains SC Series



- New connecting construction that is free from sliding part minimizes the generation of dust.
- Crook part is designed in hinge construction, and enable link increase or decrease.
- Classification of cables is also possible. Partition boards, shelves and racks.
- Link-against-link friction noise, which is generated when links are running, is significantly decreased thanks to use of soft material of low percussive noise.
- With our products, the usual level off noise (60 db) has been decreased to around 40 db. (This value will be changed in the environmental conditions.)
- Hard material is made into the structure as a framework of soft material, and now it is possible to prevent the decrease in products rigidity, which is incidental to soft material-based products.
- This framework also significantly decreases wear and tear on cables because inside components, which come in contact with cables, are made of soft material.
- Flaps are made of the same material as SP series products, making it possible to further increase rigidity while decreasing cable abrasion.
- Our flaps are designed not only to open left or right as desired, but also to facilitate mounting/removal. They can also be placed in any direction.
- As for fixing metal brackets, the moving end has been made uncommon with the fixing end, thereby in creasing ease of selection.

[O inch] [NPT]

Except for a limited number of products, inch tube diameters and NPT threads as listed below are available on all the models.

Tube dia.

Dia. (mm)	ø1/8in.	ø5/32in.	ø3/16in.	ø1/4in.	ø5/16in.	ø3/8in.	ø1/2in.	ø5/8in.
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Thread size

	Unified thread	NPT thread				
Code	U10	N0	N1	N2	N3	N4
Size	10-32 UNF	NPT1/16	NPT1/8	NPT1/4	NPT3/8	NPT1/2

Release ring:
White

Mini-type release ring:
White



[O mm] [R(PT)]

All the PISCO models are available with mm tube diameters and PT threads as specified below.

Tube dia.

Dia. (mm)	ø1.8mm	ø2mm	ø3mm	ø4mm	ø6mm	ø8mm	ø10mm	ø12mm	ø16mm
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Thread size

	Metric thread			PT thread			
Code	M3	M5	M6	O1	O2	O3	O4
Size	M3×0.5	M5×0.8	M6×1.0	R1/8	R1/4	R3/8	R1/2

Release ring:
Black

Mini-type release ring:
Black



*The combinations of tube dia. and thread size are according to our Price List. Some combinations may not be available as standard product. Please contact nearest authorized distributor for details.

PRECAUTIONS

The precautions mentioned below are important to be read and understood before installing to prevent personal injury or damage to equipment through improper use or installation.

All products should be installed on applications that meet all specifications described in the catalog for the products.

Application

The possibility exists for any component used in fluid power systems to fail to operate properly through misuse or malfunction.

The user must consider these possibilities and should provide adequate safeguards in the application or system design to prevent personal injury or property damage in the event of a malfunction.

Installation

Ensure that the end of tubing is cut square and is free from burrs and push the tubing into the fitting until it bottoms through O-ring sealing to tube end.

Do not attempt to install the products without first shutting off air to the machine.

NIHON PISCO tubings or tubings of which hardness are in excess of I.R.H.D 92 (Hs95) should be used with NIHON PISCO fittings.

Service

Before attempting to connect, disconnect, replace or repair the products, first shut off the supply air and exhaust the pressure from a line or air system.

Any product shown in the catalog must not be used for following applications.

- 1.Equipment used for maintaining / handling human life and body.
- 2.Equipment used for moving / transporting human.
- 3.Equipment specifically used for safety purposes.

For products suited to these applications, please consult us.

The repeatability of connection/disconnection of PISCO tubings should be limited to five times. Do not use a tubing which has a flaw or a scar because it could create an air leak.

Taper threaded fittings are precoated with a special coating (Sealock) which are reusable up to five times without additional sealing material.

Do not attempt to disassemble vacuum generators by yourselves except for the purpose of replacing a filter element, otherwise expected performance will not be demonstrated.

LIMITED WARRANTY

NIHON PISCO Co., Ltd. warrants that each product manufactured by it is free from any defect in material and workmanship for ten (10) months from the date of sale.

Nihon Pisco Co., is not liable for consequential or other damages including, but not limited to personal injury, damage, loss, or any other expense directly or indirectly arising from the use of, or inability to use, its products either separately or in combination with other products.

All other warranties expressed or implied, whether oral or written, including but not limited to warranties for fitness or merchantability for a particular purpose are expressly excluded.

This warranty is limited to replacement of the product.

All products presumed to be defective must be returned by prepaid transportation to NIHON PISCO Co., Ltd., together with information describing the product's performance and the status of malfunction. All returns require prior authorization by NIHON PISCO Co., Ltd.

This warranty shall not apply to any product which has been subject to misuse, misapplication, improper installation or tampering in a way so as to affect its normal performance.



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