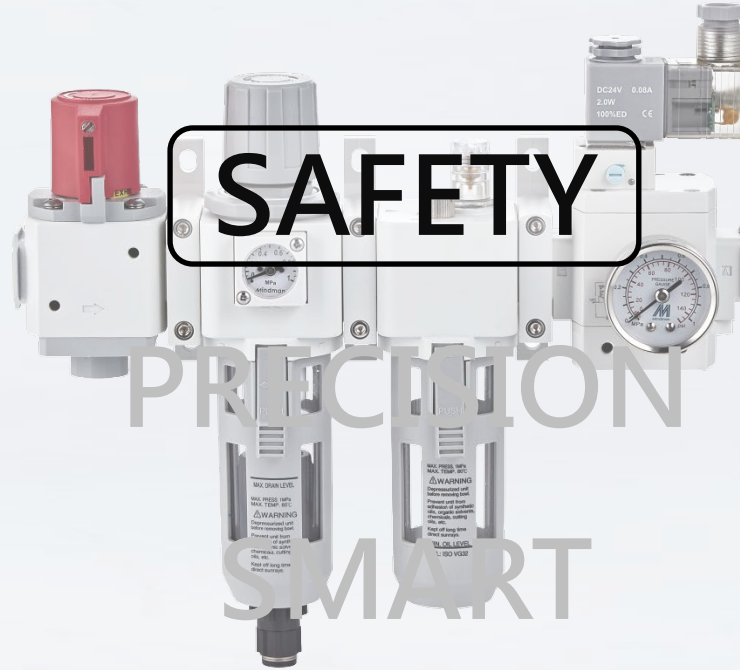




Air units





TEMPERING TREATMENT

Eliminate residual stress which makes the inner case more solid and reduces fracture possibility when operating.



Nonoxidizable for **336hrs**
under neutral salt spray test

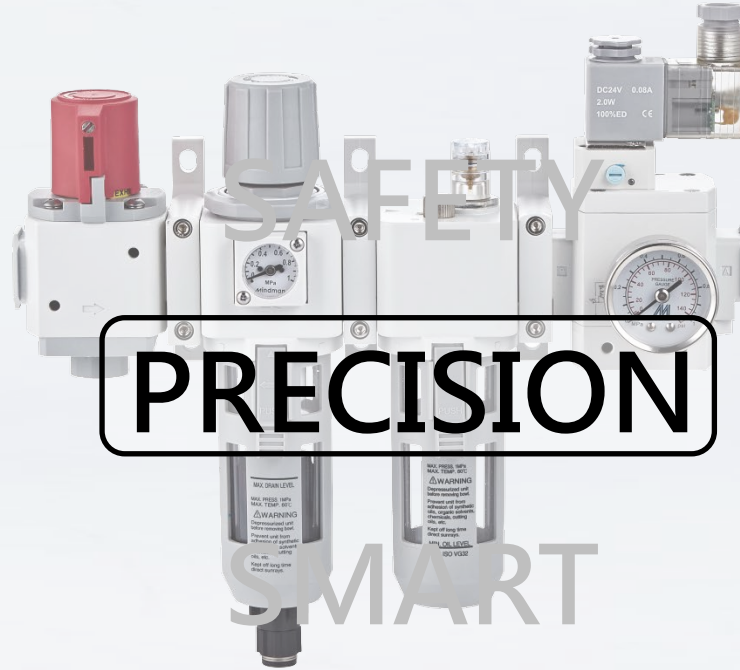
Body with SurTec 650 surface treatment enhance
the resistance of oxidation from acid-base.



SELF-LOCKING

Pressed-in and self-locking mechanism to ensure stability.





FILTER

93%+
Water removal rate



PRECISION FILTER

99%

Water removal rate



PRECISION REGULATOR

Repeatability under
 $\pm 0.5\%$ F.S.



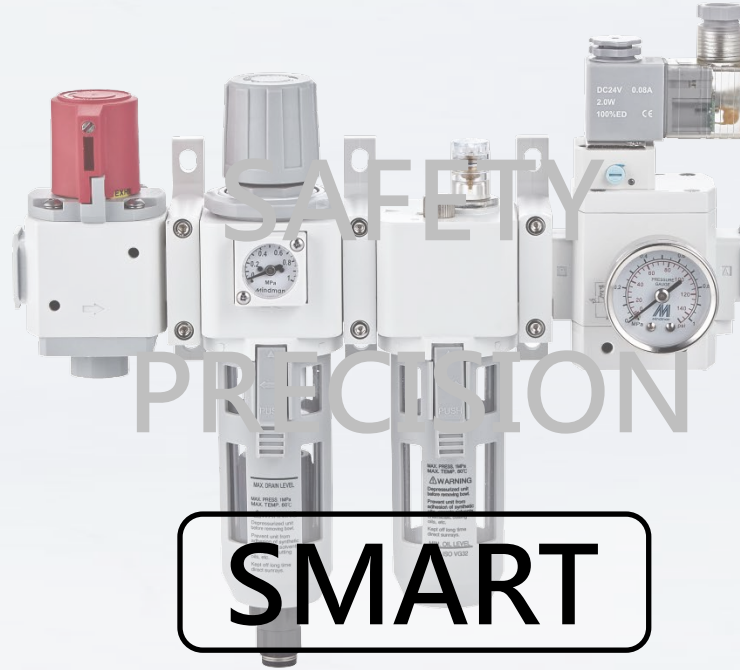
Example of application

Electronic industry

Air treatment solution :
Solve the problem of water leak and
prevent packing seal expansion of
solenoid valve and cylinder while
function.

Applied products :
MWC Series filter for turbine type
MACP302 Series F.R.L.





REMOTE MONITORING

Achieve remote monitoring through the feedback of electric signal and stepless control of the thrust force.



DIVERSIFIED COMBINATION

Diversified modular products can be applied in the different instances.

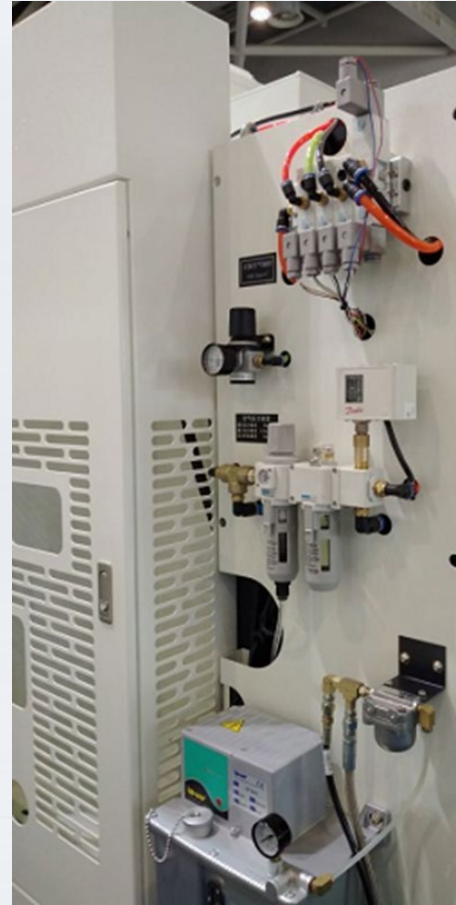


Example of application

Machine tool industry

Total solution of air treatment and control through modular integration

Applied products :
MACP302 Series F.R.L.
MVSC Series Solenoid valve



Example of application

Machine tool industry

Total solution of air treatment and control through modular integration

Applied products :

MACP300L-10A-D F.R.L.

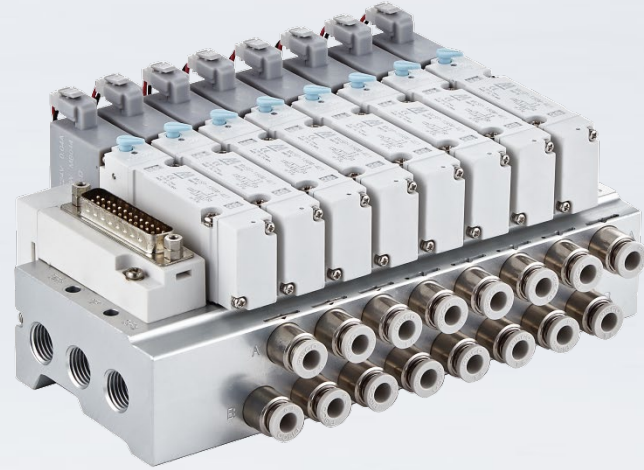
MP47P-01-F1 High precision digital pressure switch

MAR200-8A Regulator

MVSC-220-4E1-DC24 Solenoid valve



Solenoid valve



50,000,000 cycles

Adopt HNBR for spool seal (lip seal) to achieve high wear resistance and sealability. Lifetime can reach 50 million cycles. Wide working temperature from -35°C(-31°F) to 150°C(302°F).



PLUNGER MATERIAL

Resulfurized stainless steel with 17% chromium and 1.5% silicon. Provide a very low coercive magnetic field and a very high permeability.



-15% temperature increase

Adopts Nylon 6(PA6) for connector housing to prevent temperature increasing on the surface.

Connector

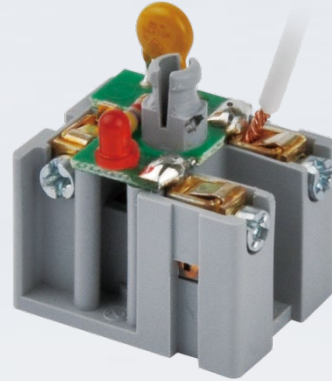


certified



CONTACT SPRING

Contact spring makes wiring quick and easy.
Also, it prevents wire damage.



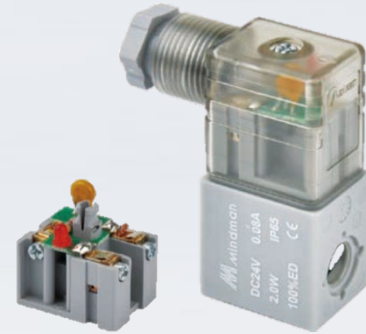
Max operating temperature **180°C**

Adopts insulation class : H class cooper wire which allowed max operating temperature up to 180°C (356°F).



LOW-NOISE

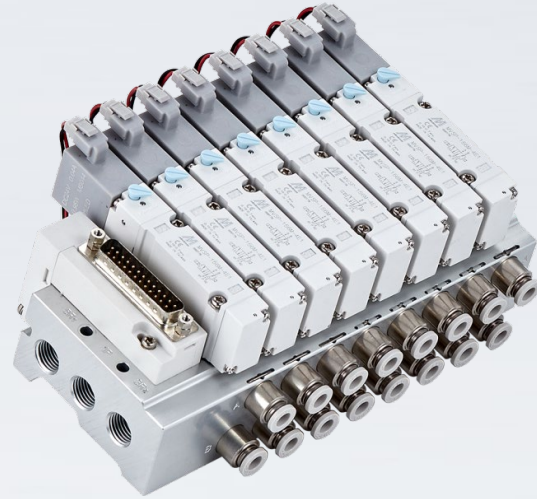
Bridge rectifier design to eliminate the noise from the AC coil when AC current transfer to DC current.



MULTI CONNECTOR SYSTEM

SIMPLIFICATION

Multi connector system simplifies piping and wiring work and reduces air consumption.



Example of application

Automatic assembly machine

Simplify piping and wiring work substantially

Increase space usage efficiency

Applied products :

MVB-100/156 Multi connector system

MVS(P)-100/156 Solenoid valve



Cylinder



SPACE-SAVING

PRECISION

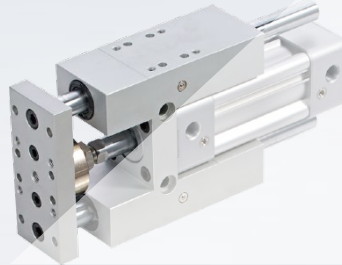
RELIABILITY

NON-ROTATING CYLINDER

-50% installment space

Hexagon bush and piston rod allow the cylinder to have non-rotating feature without additional mechanism required.

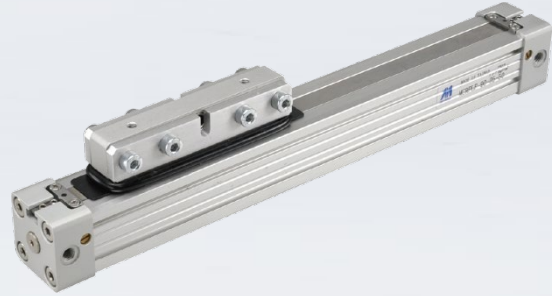
Rod non-rotating accuracy is $\pm 0.5^\circ$. If it is zero tolerance, the lifetime would decrease due to high abrasion.



RODLESS CYLINDER

-50% installment space

Rodless cylinder makes 50% space saved when compared to conventional cylinders.



SPACE-SAVING

PRECISION

RELIABILITY

SLIDE CYLINDER

The linear rails been

HEAT AND SUBZERO TREATMENT

Forming precisely grinding V-grooves. It is suitable for limited stroke linear motion system with high accuracy.



Example of application

Automatic assembly machine

MCSS linear rail is equipped with roller bearing, having higher rigidity, loading, preciseness and longer lifetime.

Applied to precision assembly when connect with gripper.

Applied products :

MCSS-8-50-A Slide cylinders with adjuster

MCHB-16 Parallel two-finger gripper

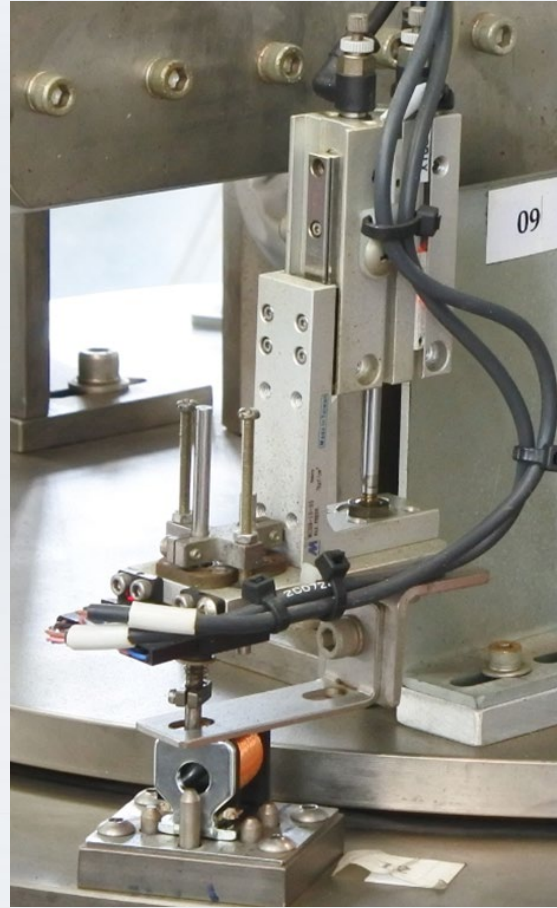


Example of application

Automatic assembly machine

Applied to short distance installment. MCSH linear rail is equipped with ball bearing which allows the slide to actuate with high speed and low friction

Applied products :
MCSH Compact slide





SPACE-SAVING
PRECISION

RELIABILITY

TWIN-GUIDE CYLINDER

Lifetime increase **50%**

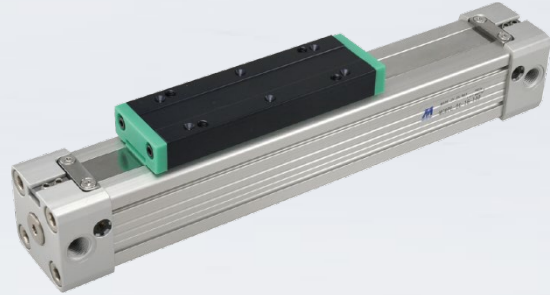
By further machining, bores acquire better roughness, parallelism and roundness. Moreover, it adopted high hardness packing seal to improve the abrasion resistance.



RODLESS CYLINDER

SUPERIOR LIFETIME

Adopt stainless steel sealing strip, tube and parts with rigorous and high end German engineering techniques.



RODLESS CYLINDER

HIGH STIFFNESS

The long stroke shows high stiffness which prevents flexure while function.

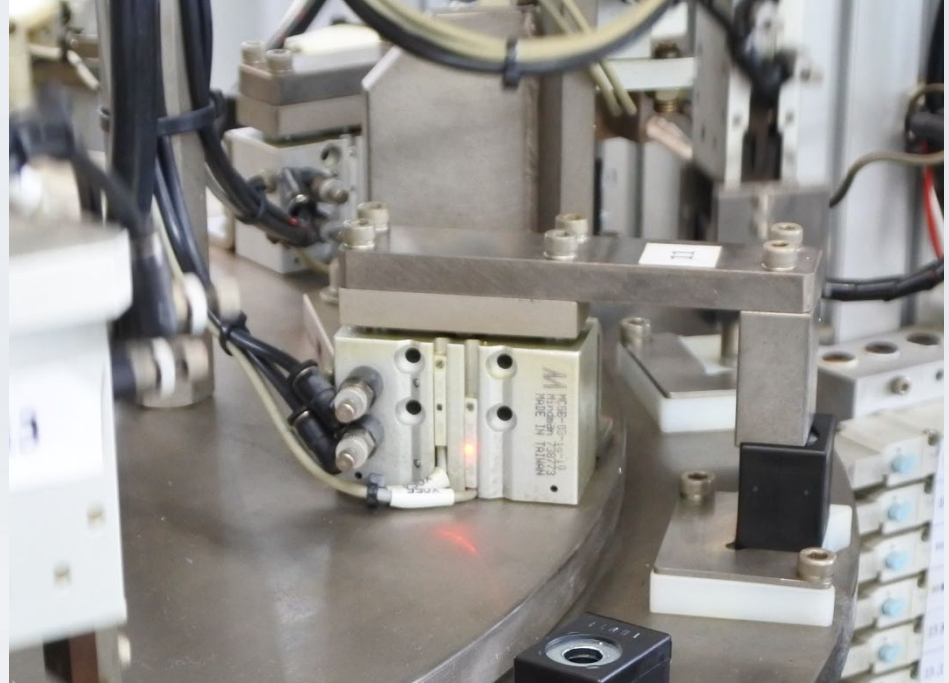


Example of application

Automatic assembly machine

Applied to the instance of stop,
lift and push.

Applied products :
MCGB Twin-guide cylinder



Example of application

Automatic assembly machine

High cantilever and direct loads can be taken on piston. Linear rail integrated model is also available which load strength is **400%** higher.

Applied products :
MCRPLF Rodless cylinder



Gripper



Three industrial pneumatic cylinders are shown in a 3D rendering. One is in the foreground, another is slightly behind and to the left, and a third is to the right. They are all silver-colored metal with various ports and mounting brackets.

HOLDING FORCE

LIGHT WEIGHT

RELIABILITY

HIGH HOLDING PERFORMANCE

Testing under the same condition, we can see Mindman gripper has better holding force.

Mindman Parallel gripper (3 finger)	Stroke Per-Jaw (mm)	Holding Force (N)	Recommended Work-Piece Loading (Safety Factor-10 times) (kg)	Recommended Work-Piece Loading (Safety Factor-20 times) (kg)
MCHJ-50	4	450	4.5	2.25
MCHJ-66	6	750	7.5	3.8
MCHJ-80	8	1200	12	6.0
MCHJ-100	10	2000	20	10.0
MCHJ-125	12	3500	35	17.5
MCHJ-160	16	6500	65	32.5
MCHJ-200	20	8200	82	41
MCHJ-300	30	15300	153	76.5

Japanese brand Parallel gripper (3 finger)	Stroke Per-Jaw (mm)	Holding Force (N)	Recommended Work-Piece Loading (Safety Factor-10 times) (kg)	Recommended Work-Piece Loading (Safety Factor-20 times) (kg)
Bore 50mm	6	187	1.87	0.94
Bore 63mm	8	335	3.35	1.68
Bore 80mm	10	500	5	2.5
Bore 100mm	12	750	7.5	3.75
Bore 125mm	16	1270	12.7	6.35

Example of application

Truss manipulator industry

Application: Mainly used for large truss manipulator equipment for clamping heavy workpieces such as iron parts.

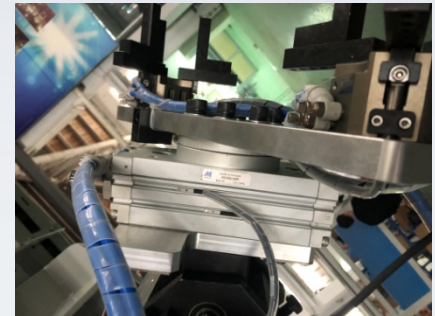
Applied products :

MCHJ-50/66/80 Parallel three-finger gripper

MCHS-125 Parallel two-finger gripper

MCRQ-20R/32R Rotary actuator

MVSP Series Solenoid valve





HOLDING FORCE

LIGHT WEIGHT

RELIABILITY

LIGHT WEIGHT AND COMPACT

Mindman gripper has light and compact body without sacrificing the performance.

Mindman Parallel gripper (3 finger)	Stroke Per-Jaw (mm)	Holding Force (N)	Body Dimension (mm)	Weights (kg)
MCHJ-50	4	450	Ø57	0.22
MCHJ-66	6	750	Ø74	0.5
MCHJ-80	8	1200	Ø92	0.85
MCHJ-100	10	2000	Ø114	1.6
MCHJ-125	12	3500	Ø139	2.7
MCHJ-160	16	6500	Ø179	5.1
MCHJ-200	20	8200	Ø218	9.6
MCHJ-300	30	15300	Ø292	24

Japanese brand Parallel gripper (3 finger)	Stroke Per-Jaw (mm)	Holding Force (N)	Body Dimension (mm)	Weights (kg)
Bore 50mm	6	187	Ø70	0.541
Bore 63mm	8	335	Ø86	0.992
Bore 80mm	10	500	Ø106	1.85
Bore 100mm	12	750	Ø134	3.34
Bore 125mm	16	1270	Ø166	6.46

Example of application

Machine tool industry

Application: The pick-and-place of the machine tool is carried out by the cooperation of the robot arm and the gripper.

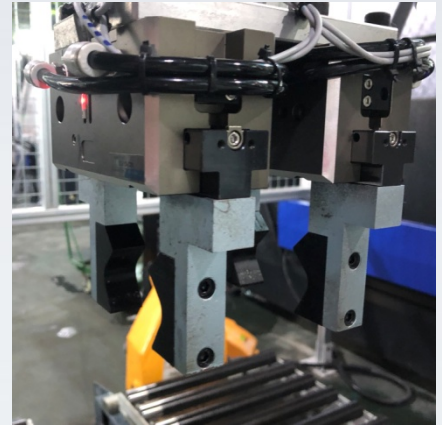
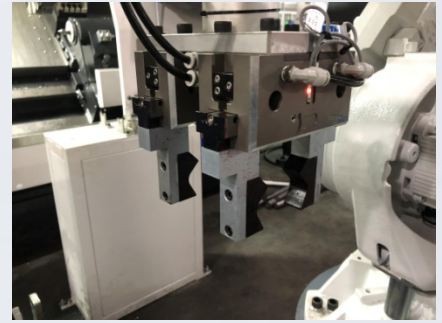
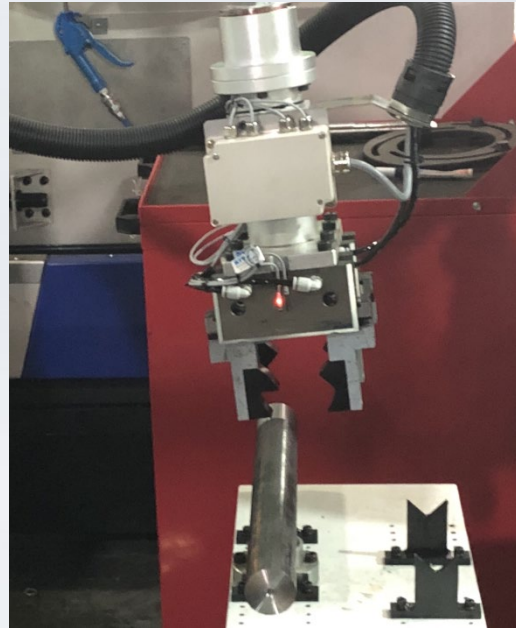
Applied products :

MCHJ-80/125 Parallel three-finger gripper

MCHS-66/125 Parallel two-finger gripper

MAFR Series F.R.

MVSY Series Solenoid valve



Four industrial pneumatic cylinders are arranged on a white background. One is at the top, one on the left, one in the center, and one on the right. They vary in size and port configuration.

HOLDING FORCE

LIGHT WEIGHT

RELIABILITY

6,000,000cycles

Under eccentric and full loading, Mindman gripper is able to reach 6 million cycles while the other brands failed at less than 1 million cycles.

	0	200	400	500 (Target)	600
Japanese Brand	● -	● -	● -	● -	●
Mindman	● -	● -	● -	● -	●
Other Brand	● -	×			
Other Brand	● -	△			

Example of application

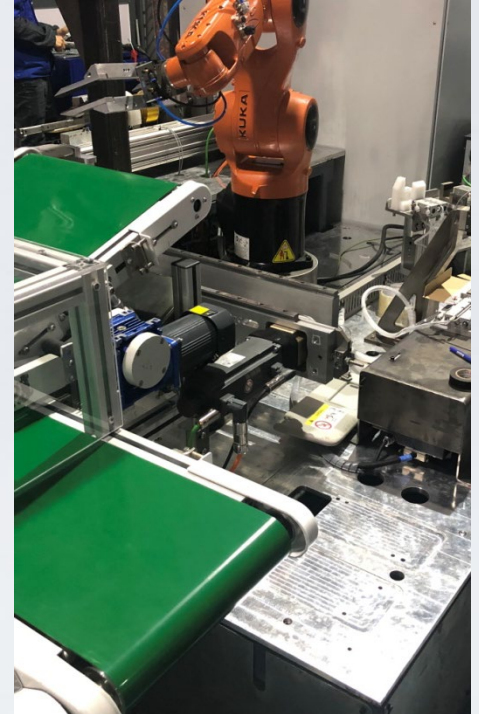
Automotive interior parts processing industry

Application: Robotic arm with gripper is picking up automotive interior parts (sun visor) for processing and transfer.

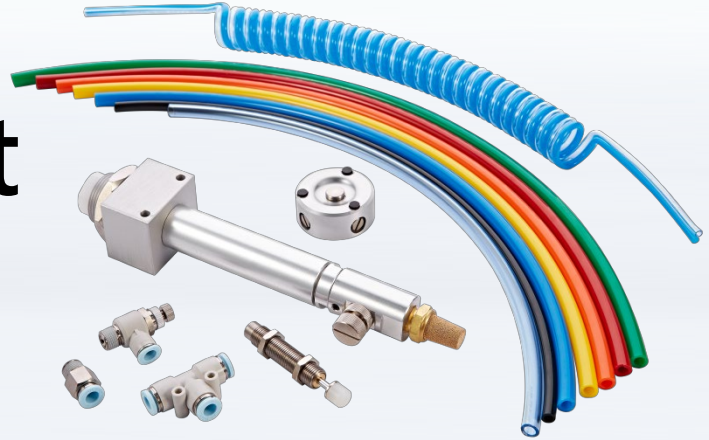
Applied products :

MCHJ-80/100 Parallel three-finger gripper

MVSY Series Solenoid valve



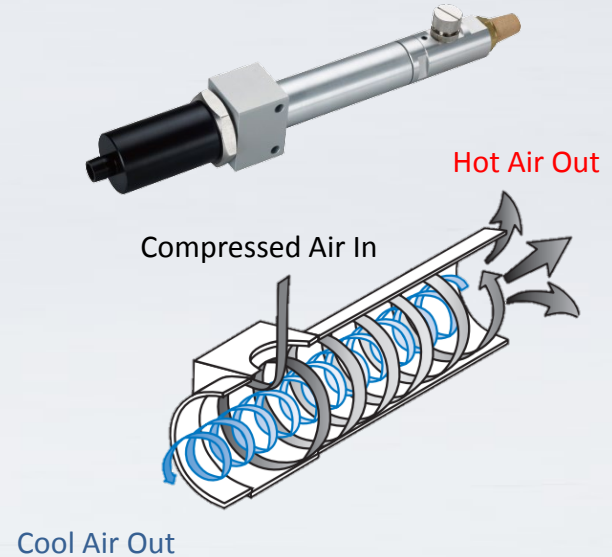
Auxiliary Equipment



JET COOLER

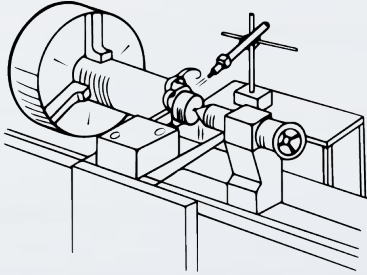
Max temperature drop
60°C (140°F)

Does not require coolant or electrical source.
No moving parts are used in construction,
hence with long life sustainability.

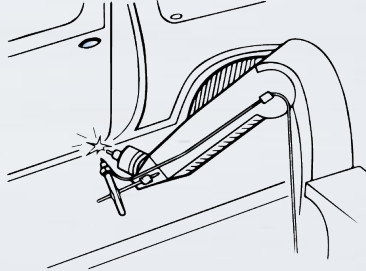


Example of application

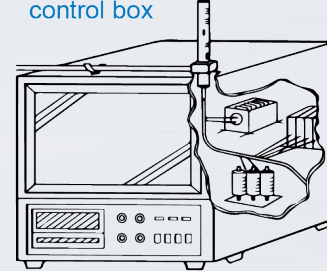
■ Plastic machining cool



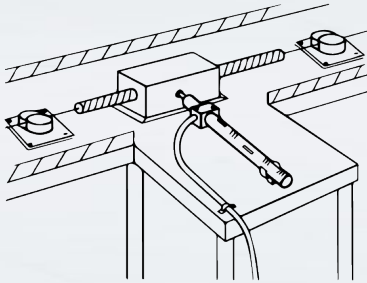
■ Spot welding cool



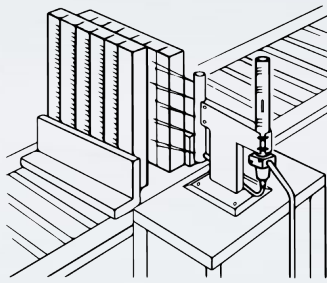
■ Monitoring camera case
cool and dust-proof inside
control box



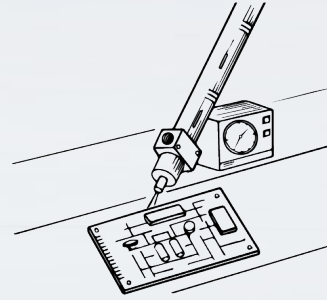
■ Wire cut harden



■ Adherent quick cool



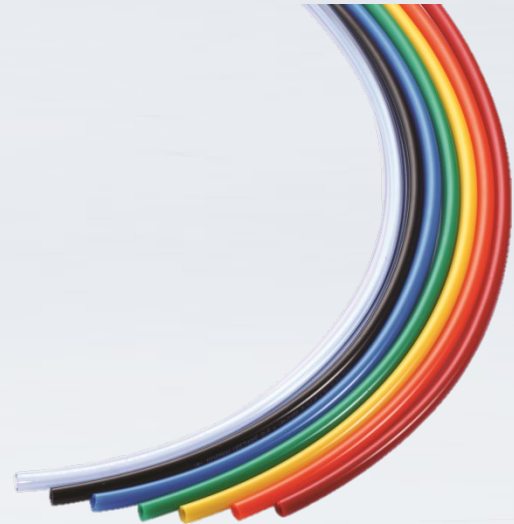
■ Welding quick cool



PU TUBE

Tube O.D. Tolerance
 $\pm 0.07\text{mm}$

Piping work can be easier and more efficient when using a high quality tube. And any color is customizable.



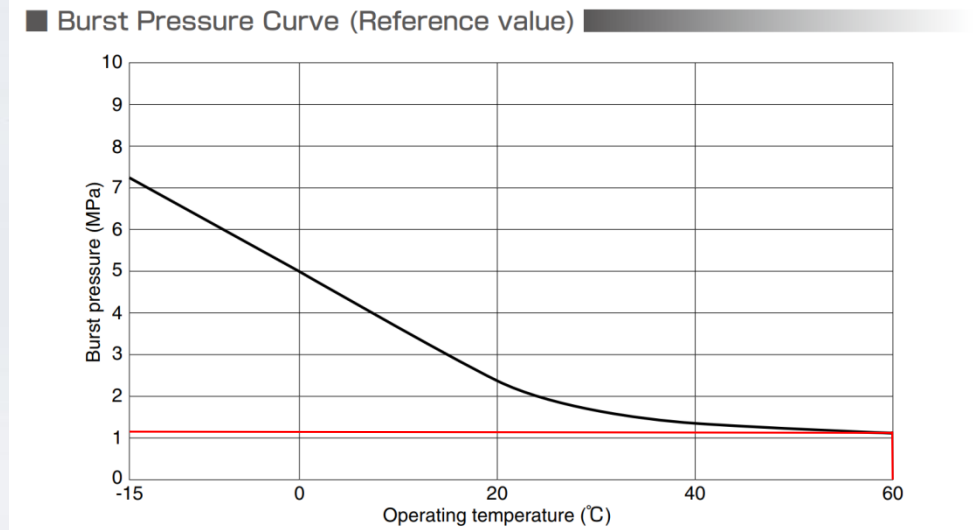
PU TUBE

Under operating
temperature

60°C (140°F)

burst pressure can
reach over 10 bar

High pressure resistance under high
temperature environment.



FITTINGS

SMOOTH CONNECTION

Since the high quantity of jaws, drag force will be dispersed on every piece of jaw when connecting. No longer worry about finger pain.

抜群の操作性

PISCO

適用チューブ外径：12mm

ロック爪：18枚



爪が多数あることにより、爪一枚一枚にかかる力を分散。

FITTINGS

EASY REMOVE

Even the tube that has been installed for 10 years can also be removed smoothly without mark of jaws.

