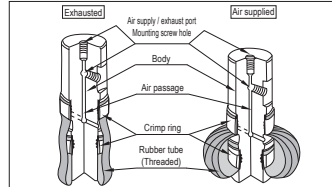


# AIR PICKER / AIR GRIPPER OVERVIEW

## Air Picker / Air Gripper Features

- The hollow cylindrical rubber bulges in a donut shape and contacts softly in a wide area, allowing it to hold the workpiece firmly without causing damage.
- It can instantaneously inject and exhaust air and can be operated reliably and speedily.
- It has a simple structure that can be easily installed on an automatic conveyor, robot, etc.
- The load capacity is 6 to 70 times its own weight, enabling lightweight use compared with other hand types.
- Since the rubber part bulges concentrically, it is possible to grasp workpieces with different diameters and reduce changeovers such as chuck replacement.
- The silicone type has low temperature dependence among its physical properties and is excellent in cold and heat resistance.
- The silicone type is optimum for fields where cleanliness is important, as the silicone in the rubber part is chemically stable and white pigment is used.

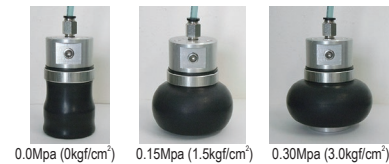
## Basic Structure of Air Picker



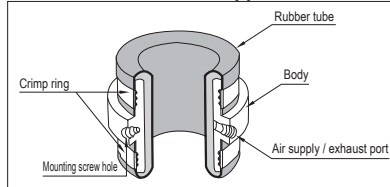
## Air Picker Part Details

Type	Body material	Surface treatment	Rubber part material	Rubber part thread structure
MAPC	SUM23	Brass/Nickel plated	Chloroprene rubber	Radial
MAPS			Silicone rubber	

## Appearance changes due to air supply \* Numbers in the photo below indicate the supply air pressure



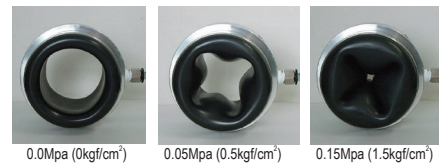
## Basic Structure of Air Gripper



## Air Gripper Part Details

Type	Body material	Surface treatment	Rubber part material	Rubber part structure
MAGC	A5056B	White alumite	Chloroprene rubber	All rubber
MAGS			Silicone rubber	

## Appearance changes due to air supply \* Numbers in the photo below indicate the supply air pressure



## Durability of Air Picker and Air Gripper

### 1. Factors that affect the product life

- Influence of workpiece gripping diameter**  
It is advantageous in terms of service life for both the air picker and air gripper if the bulge of the rubber part is small.  
Therefore, when selecting the size, select a large size for the air picker and small size for the air gripper when the use area spans multiple sizes.  
The service life may differ greatly between the minimum and maximum applicable workpiece diameters.
- Influence of operating air pressure**  
It is advantageous in terms of service life to set both the air picker and air gripper low so that slippage does not occur with the target workpiece.
- Influence of residual pressure in air exhaust**  
The service life of both the air picker and air gripper can be improved if the internal pressure is retained while the workpiece is released without completely removing the air during exhaust.
- Influence of workpiece gripping conditions**  
Since both the air picker and air gripper hold the workpiece by contact with the rubber part, the service life largely differs depending on the finished state of the workpiece gripping part and the presence of unevenness.
- Handling**  
Observe the precautions for handling the air picker and air gripper.

### 2. Replacement period

- When the air picker comes to the end of its life, the following phenomena will occur. Also, since the phenomena will change depending on the actual conditions (usage environment, usage, grasping state, etc.), perform periodic inspections and replace it as soon as possible.
- Thread is exposed due to wear to rubber. (Air picker)
  - The rubber part is cracked.
  - When inflated, the thread interval varies. (Air picker)
  - It is hard to insert into a workpiece.
  - It takes time to exhaust. (\*Note)
  - The bulge of the rubber deteriorates. (\*Note)
- \*Note: The phenomena (5) and (6) above may be caused by clogging of the piping system or air leakage, so be sure to check the piping system when such a phenomenon occurs.
- ### 3. Product life warranty
- Since the service life in the actual operating environment will vary depending on the usage environment, purpose of use, condition of grasping part and the like, we cannot guarantee a specific duration.

- decrease. Also, if oil adheres to the rubber surface, the service life may decrease.
- Be sure to supply air through a pressure reducing valve or filter/oil removing filter and use it below the maximum operating pressure. If high pressure is applied, or the air supply contains oil or moisture, the service life may decrease.
- Using the air picker in an area beyond the applicable workpiece inner diameter may cause premature failure.
- Additional processing of the body performed by the customer may scratch the rubber part and cause premature failure.
- When using the air picker, close any female threading not used as an air inlet or outlet with a sealant.

## Precautions for Handling

- Check for damage to the rubber part before use.
- Do not hit the rubber section with a sharp object or apply shocks.
- When starting up or restarting after leaving it for a long period of time, allow several supply/exhaust operations before use.
- Do not leave it for a long period of time with the air left inside.
- Avoid locations that are subject to direct sunlight or humidity during storage.
- Do not inflate it frequently in a free state, as this may cause premature failure.
- Since it is a consumable item, replace it with a new unit as soon as it has deteriorated.
- When grasping, if there is oil, moisture or the like (substance that lowers the frictional force) between the workpiece and rubber part, frictional force may drop suddenly and cause the grasping force to decrease.

## [Important] Notes

- [Danger]** : Indicates a case where danger is clearly foreseen. Failure to avoid the indicated danger may result in death or serious injury. It could also result in damage to property.
- [Warning]** : Indicates a situation where although there is no immediate danger, it could be dangerous depending on the situation. Failure to avoid the indicated danger may result in death or serious injury. It could also result in damage to property.
- [Notice]** : Details that must be observed in order to properly use the product. Not matters that would result in injury, etc.

### ▲ Danger

- Do not use it for the following purposes.
  - Medical devices related to maintenance and management of human life and body
  - Mechanisms and machines for human movement and transport
  - Important maintenance parts of mechanical equipment
 This product has not been designed for usages that require high level of safety. Using it for these applications may cause fatalities.
- Do not touch or come physically close to the product while it is in operation. The air picker and air gripper may move unexpectedly, which may cause injury.
- When installing the product, be sure to securely retain and fix it (including the workpiece). Injuries may be caused by tilting, falling or abnormal operation of the product.
- Never modify the product. It may cause injury or the like due to abnormal operation.
- Do not perform inappropriate assembly/disassembly related to the basic structure, performance and functions of the product. It may cause injury.
- Do not spray water onto the product. Spraying water, washing or using it underwater may cause injuries due to abnormal operation.

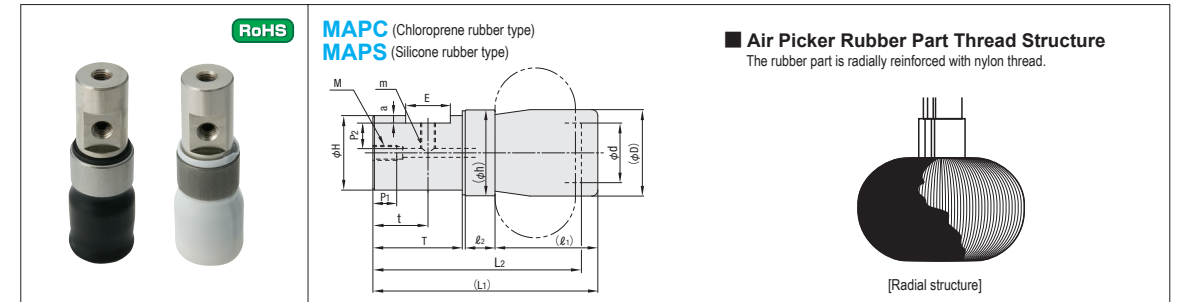
### ▲ Warning

- Since the air picker and air gripper are consumable items, replace them with new units as soon as they have deteriorated (refer to air picker and air gripper replacement period). Injuries may be caused due to damage to the rubber part.

### ▲ Notice

- When considering conditions and environments that are not listed in the catalog, or applications which require particular safety such as aviation facilities, combustion devices, entertainment devices, safety devices or uses which may seriously affect human lives and property, be sure to give due consideration to safety measures such as fall safes and to use well within the rating and performance.
- Do not configure control that would cause the workpiece to fall in the event of power failure. Construct fall prevention control for the workpiece and the like to be used in the event of power outage or emergency stop of the mechanical device.
- Do not use it in places where there is direct sunlight (ultraviolet rays) or an atmosphere that contains dust, salt, iron powder, organic solvents, phosphate ester hydraulic oils, mineral oil, sulfuric acid gas, chlorine gas, acids, etc. It will result in short-term functional outages, sudden degradation in performance or shortened service life.
- When handling the product, wear protective gloves, protective eyewear, safety shoes and the like as necessary to ensure safety.
- If the product becomes unusable or unnecessary, dispose of it appropriately as industrial waste.

# AIR PICKER / AIR GRIPPER

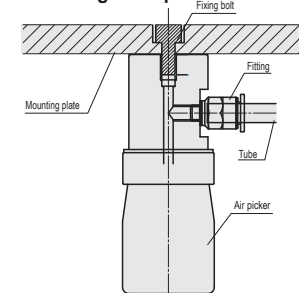


## Air Picker

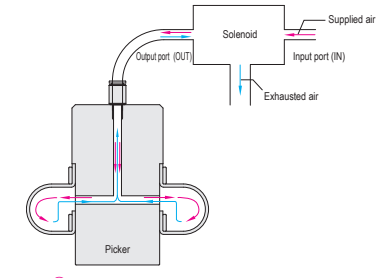
Rubber type	(D)	d	(L <sub>1</sub> )	L <sub>2</sub>	(ℓ <sub>1</sub> )	ℓ <sub>2</sub>	H	(h)	T	t	P <sub>1</sub>	P <sub>2</sub>	E	a	M	m	Max. operating air pressure (Mpa)	Mass (g)	Recommended load capacity* (kg)	Applicable workpiece inner diameter (φ)	Part Number		Unit price					
																					Type	No.		1~4 pcs				
Chloroprene rubber	14	8	52	50	21	8	10	12.8	22	14	8	3	12	2	M5	M5	0.4	28	2	16~21	MAPC	16	Quotation					
	19	11	56	50	22	10	14	17.5	22	14	8	5	12	2	M5	M5								0.5	60	2.5	21~27	21
	22	14	56	50	22	10	17	19.9	22	14	8	5	12	2	M5	M5												
Silicone rubber	20	11	56	50	22	10	14	17.5	22	14	8	5	12	2	M5	M5	0.22	60	0.6	22~25	MAPS	22	Quotation					
	23	14	56	50	22	10	17	20.5	22	14	8	5	12	2	M5	M5								85	0.7	25~30	25	
	27	16	57	50	23	10	19	23.4	22	14	8	5	12	2	M5	M5												110

\*The recommended load capacity represents the maximum workpiece inner diameter. (The smaller the workpiece inner diameter, the larger the load capacity.)  
 (φ) is a reference dimension. Please check with our WOS for the purchase order that exceeds the displayed quantity.

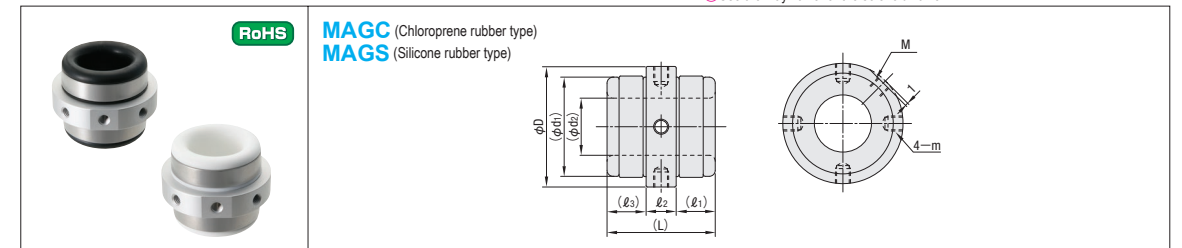
## Air Picker Mounting Example



## Air Picker Piping Example



Use a 3-way valve for the solenoid valve.

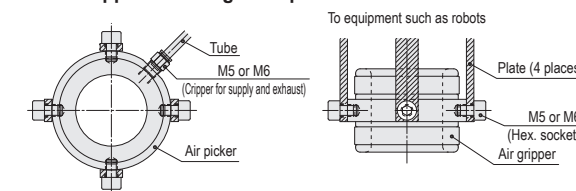


## Air Gripper

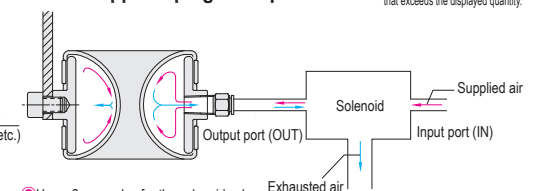
Rubber type	(L)	(ℓ <sub>1</sub> )	ℓ <sub>2</sub>	(ℓ <sub>3</sub> )	D	(d <sub>1</sub> )	(d <sub>2</sub> )	M	m	Max. operating air pressure (Mpa)	Mass (g)	Recommended load capacity* (kg)	Applicable workpiece external dia. (φ)	Part Number		Unit price				
														Type	No.		1~4 pcs			
Chloroprene rubber	36	13	10	13	40	33	19	M5	M5	0.15	60	1.4	5~15	MAGC	5	Quotation				
	48	17.5	10	17.5	60	48	27	M6	M6								145	3.8	10~25	10
	52	19	14	19	70	58	37	M6	M6											
Silicone rubber	38	14	10	14	40	34	19	M5	M5	0.1	60	0.4	5~15	MAGS	5	Quotation				
	51	19	13	19	60	49	27	M6	M6								130	1.2	10~25	10
	54	20	14	20	70	60	37	M6	M6											

\*The recommended load capacity represents the minimum workpiece outer diameter. (The larger the workpiece outer diameter, the larger the load capacity.)  
 (φ) is a reference dimension. Please check with our WOS for the purchase order that exceeds the displayed quantity.

## Air Gripper Mounting Example



## Air Gripper Piping Example



Use a 3-way valve for the solenoid valve.



Part Number  
MAPC16  
MAGC10



Quotation