

# **INSTRUCTION MANUAL**

## **SILENCER**

### **SL**

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

## For Safety Use


To use this product safely, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (ISO 4414 \*1 JIS B 8370 \*2). We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.


Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.


This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents **read this operation manual carefully for proper operation.**

Observe the cautions on handling described in this manual, as well as the following instructions:

Additionally, the caution is classified into the following three groups, "CAUTION", "WARNING", and "DANGER", to identify the degree of the danger it presents and possible hazard.

 **DANGER** : Failure to pay attention to DANGER notices may cause a situation that results in a fatality or serious injury and that requires urgent addressing.

 **WARNING** : Failure to pay attention to WARNING notices may result in a fatality or serious injury.

 **CAUTION** : Failure to pay attention to WARNING notices may result in injury or damage to equipment or facilities.

\*1) ISO 4414 : Pneumatic fluid power ... Recommendations for the application of equipment to transmission and control systems.

\*2) JIS B 8370 : General rule for pneumatic systems

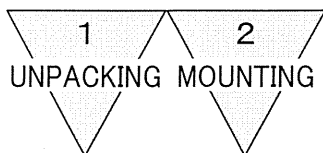
# INDEX

SL

SILENCER

Manual No. SM-242993-A

1. UNPACKING.....	3
2. MOUNTING AND INSTALLATION	
2.1 Piping.....	3
3. MAINTENANCE	
3.1 Disassembling .....	4
3.2 Maintenance.....	4
3.3 Trouble Shooting .....	5
3.4 Disposal of product .....	5
4. INTERNAL STRUCTURE AND LISTS OF PARTS ...	5
5. PRODUCT SPECIFICATIONS	
5.1 How to Order .....	6
5.2 Specifications .....	6



## 1. UNPACKING



### **CAUTION :**

Bags containing product should be opened only when you are ready to connect the product to the pipes immediately afterward.

- If bags are opened before the product are ready to be connected to the pipes, the entry of foreign matter from the piping ports could cause the product to fail or malfunction.

- 1) Check the model number imprinted on the product to make sure that the product you received is exactly the product you ordered.
- 2) Check the exterior of the product for any damage.

## 2. MOUNTING AND INSTALLATION



### **CAUTION :**

- 1) Tighten pipes with appropriate torque to prevent screw slack, air leakage and screw damage.
- 2) Do not apply any lateral load to the main body during mounting and after mounting.
- 3) Install the product in a correct direction so that the exhaust air from the silencer does not enter your eyes directly.

### 2.1 Piping

- 1) Lightly tighten the pipe into the connecting port temporarily by hand, and then tighten firmly using the tool.

At this time, always tighten the pipe within a recommended tightening torque range.

[Appropriate tightening torque]

Model code	Tightening torque N · m
SL-8A	6 to 8
SL-10A	13 to 15
SL-15A	16 to 18
SL-20A	19 to 40
SL-25A	41 to 70
SL-32A	43 to 75
SL-40A	45 to 80
SL-50A	47 to 85

### 3. MAINTENANCE



#### CAUTION :

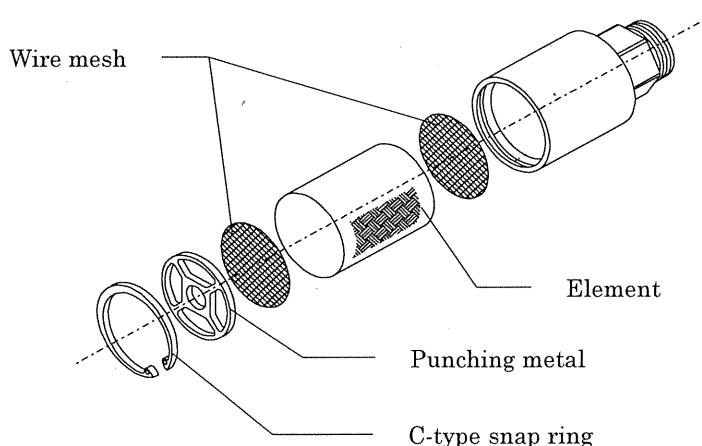
- 1) For removal and re-installation of C-type snap ring, use a special tool, and take care so that no C-type snap ring flies off.
- 2) Upon element replacement, ensure that C-type snap ring is attached.  
If this snap ring is attached incompletely, the built-in parts will fly out during operation, which could be dangerous.
- 3) When the element is replaced, be sure to mount a wire mesh and punching metal.
- 4) With care given to the mounting direction of C-type snap ring, always attach this snap ring in the direction as shown in the figure below.

#### 3.1 Disassembling

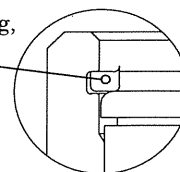
- 1) Detach C-type snap ring in the exhaust port with a special tool: the assembled parts, such as the element, can be taken out.

#### 3.2 Maintenance

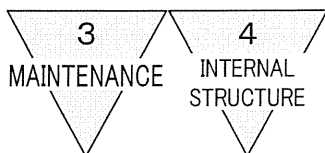
- 1) On the occurrence of some blockage, do not forget to replace the element.  
[ Element Replacement Steps ]
  - ①Detach the C-type snap ring with the special tool.  
(At this time, take care so that no C-type snap ring flies off.)
  - ②Take out the punching metal and wire mesh.
  - ③Take out the obsolete element.
  - ④Ensure that the wire mesh is present inside the silencer, then insert a new element.
  - ⑤Assemble the wire mesh, punching metal, then C-type snap ring in sequence.  
(At this time, give care to the direction of C-type snap ring.)



⑤For this C-type snap ring, the edge should turn up.



- |                      |
|----------------------|
| • 8 A to 25 A:       |
| Roll type × 1        |
| • 32 A to 50 A:      |
| Cylindrical type × 5 |



### 3.3 Trouble Shooting

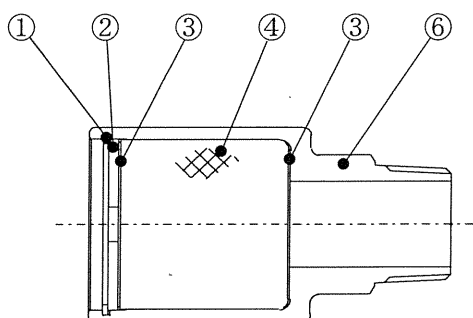
Symptom of Malfunction	Probable Cause	Suggested Remedy
The equipment speed was reduced.	Lower exhaust flow rate caused by element blockage	Replace the element with a new one.
The built-in parts, such as the element, protruded.	The assembly of C-type snap ring was found unsatisfactory in replacing the element.	Install the unit in such a manner that the snap ring is snugly fitted into the silencer main body securely.

### 3.4 Disposal of product

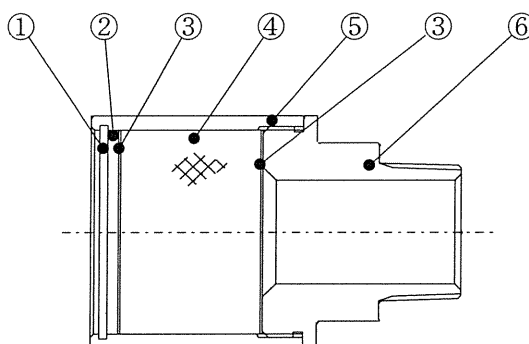
- 1) This product is made of metal and plastic parts. Before disposing of this product, disassemble the product while referring to section 3.1, Disassembling, and separate the materials properly. (For details about materials, see section 4, Internal structure and list of parts.)

## 4. INTERNAL STRUCTURE AND LISTS OF PARTS

### ●SL-8A to 25A



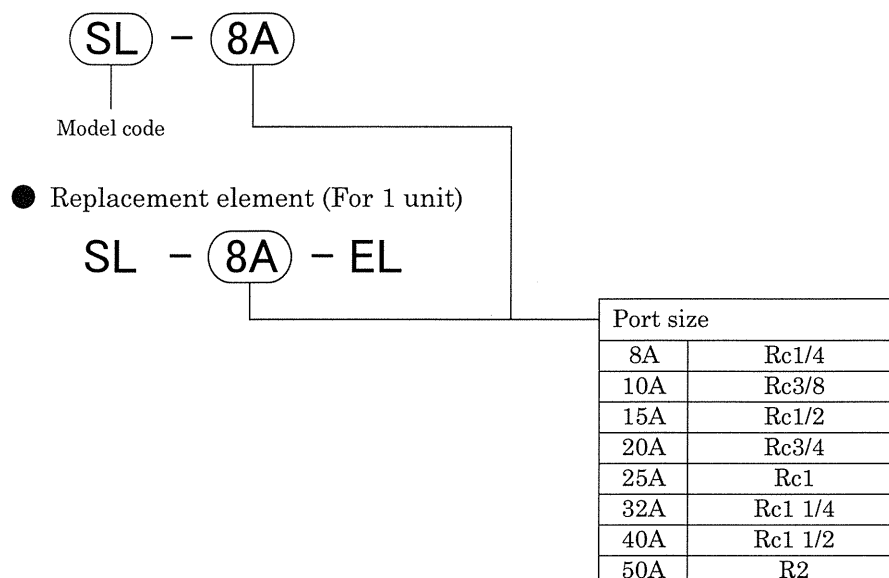
### ●SL-32A to 50A



No.	Part name	Material
1	Snap ring	Steel (8A to 25A)
		Stainless (32A to 50A)
2	Punching metal	Steel
3	Net wire	Stainless
4	Element	Vinylidene chloride (8A to 25A)
		Urethan (32A to 50A)
5	Case	Aluminium alloy
6	Body	Aluminium alloy

## 5. PRODUCT SPECIFICATIONS

### 5.1 How to Order



### 5.2 Specifications

Item		SL-8A	SL-10A	SL-15A	SL-20A	SL-25A
Media		Air				
Max. service pressure	MPa	0.9				
Min. service pressure	MPa	0				
Withstanding pressure	MPa	1.35				
Media temperature	℃	5 to 60 (Not be frozen Note2)				
Ambient temperature	℃	-10 to 60 (Not be frozen)				
Connecting pipe size	R	1/4	3/8	1/2	3/4	1
Weight	g	75	100	105	245	250
Tube bore of host cylinder	mm	φ 50 to 100	φ 63 to 140	φ 75 to 180	φ 100 to 250	φ 140 to 250
Damping effect	dB[A]	20 or more				
Flow Note1	m <sup>3</sup> /min.	2.4	3.2	4.1	12	14
Effective sectional area	mm <sup>2</sup>	36	48	61	160	210

Item		SL-32A	SL-40A	SL-50A
Media		Air		
Max. service pressure	MPa	0.9		
Min. service pressure	MPa	0		
Withstanding pressure	MPa	1.35		
Media temperature	℃	5 to 60 (Not be frozen Note2)		
Ambient temperature	℃	-10 to 60 (Not be frozen)		
Connecting pipe size	R	1 1/4	1 1/2	2
Weight	g	500	500	800
Tube bore of host cylinder	mm	φ 140 to 450	φ 140 to 450	φ 300 to 450
Damping effect	dB[A]	20 or more		
Flow Note1	m <sup>3</sup> /min.	17	17.5	33
Effective sectional area	mm <sup>2</sup>	250	260	500

Note 1 : The flow rate atmospheric conversion rate at 0.5MPa.

Note 2 : The adiabatic expansion may cause freezing depending on the quality (dew point) of the air.