

## INSTRUCTION MANUAL

### LUBRICATOR

3000E : ECONOMIST TYPE  
(FINE OIL MIST)

3500 : ATOMIST TYPE  
(FINE OIL FOG)

- 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 (to the level pursuant to JIS B 8370 Pneumatic System Rules).

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 instruction manual carefully for proper operation.

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



### Precautions

- Since the filter and the lubricator use a plastic bowl, do not use them with an organic solvent or in a heating steam atmosphere. The bowl will be damaged. Use a metal bowl for an organic solvent or in a heating steam atmosphere.
- Before carrying out maintenance on the filter and the lubricator, depressurize the product completely.

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3500  
LUBRICATOR  
Manual No. SM-190949-A

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NOTE: Letters & figures enclosed within Gothic style bracket  
(examples such as [C2-4PP07] · [V2-503-B] etc. ) are editorial  
symbols being unrelated with contents of the book.

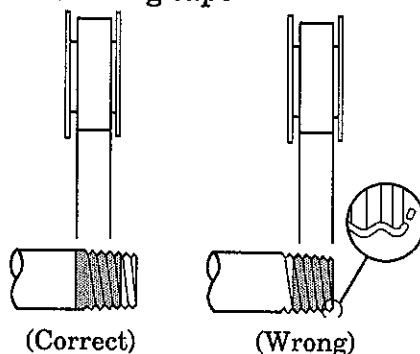
## 1. CAUTIONS

- 1) Refer to catalogs for specifications and model numbers of products.
- 2) Do not use this product where direct sunlight comes in.
- 3) Compressed air in use must not exceed 1.0 MPa .
- 4) Do not use it where ambient temperature is over 65 °C.
- 5) As material is polycarbonate resin, NEVER use it in atmosphere containing organic solvent. As chemical agent proof performance vary depending on material of bowl, refer to catalog for details.

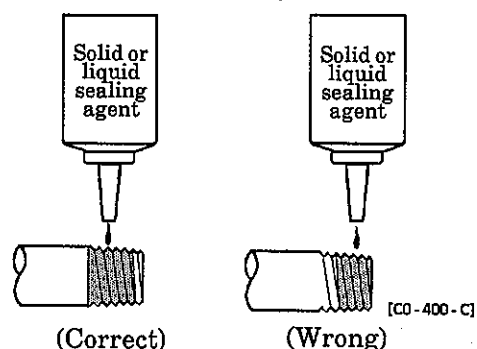
## 2. INSTALLATION

- 1) Install it as closest to air pressure equipment as possible.
- 2) Install air filter (5 $\mu$ m) in front of lubricator to prevent dust or water from coming in.
- 3) Install it so that air flow may direct as instructed by an arrow shown on the product.
- 4) Install it with bowl of lubricator facing downward.
- 5) When using seal tape or seal material for piping, do not apply it on first two threads at top end of screw so that any remaining of seal tape or material may not stay inside of piping or equipment.

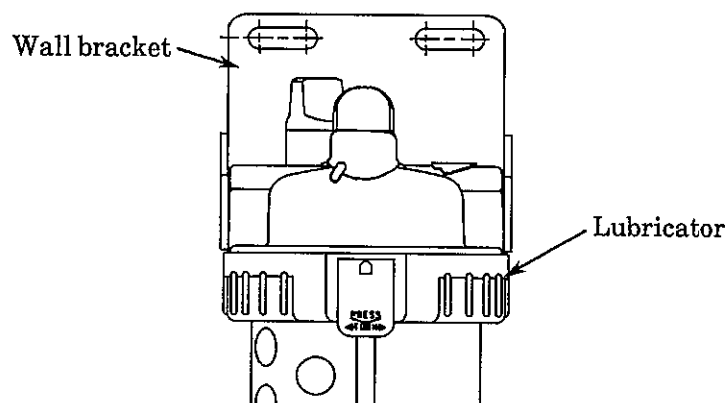
### ●Sealing tape



### ●Solid sealing agent



- 6) When using wall bracket (attached in option "B"), piping should be so arranged that the lubricator and bracket may be installed together (see below).



- 7) For operation and maintenance purpose ,keep open space below bowl and above body, of 40 mm or more, and 250 mm or more respectively.

### 3. OPERATION

#### 1) Adjustment of oil drop quantity

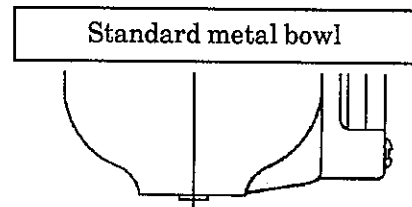
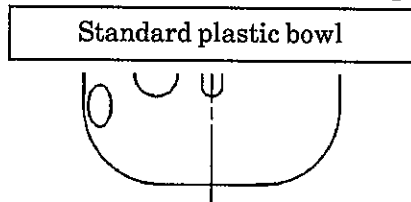
Oil drop quantity increases by turning adjusting screw left (counter-clockwise), and decreases turning right (clockwise). Once drop quantity is set, proportion between oil and air is kept unchanged even if air flow rate changes.

**Economist type** : All the oil dropped in sight dome will be sent to the OUT side in mist.(Fine oil mist).

**Atomist type** : 3% of the oil dropped in sight dome will be sent to the OUT side (Fine oil fog).

#### 2) Purging drain

Drain from bottom of bowl periodically.

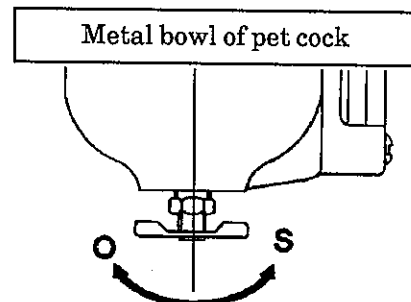
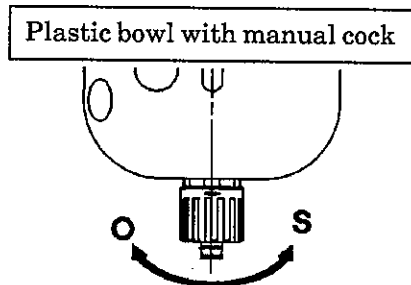


Drainage can be done by releasing pressure inside bowl and removing bowl.

※ Refer to article 6 for removing and installing bowl.

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Drainage can be started by turning cock toward "O", and stopped by turning it toward "S".

※ Release pressure inside bowl before removing bowl.

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※ Release pressure inside bowl before removing bowl.

## 4. MAINTENANCE

Before carrying out maintenance, stop supplying compressed air, release primary pressure, and make sure that there is no pressure left in it.

### 4.1 Periodical inspection

- 1) Drain from bottom of bowl periodically. Refer to previous article for purging drain.
- 2) Fill oil periodically according to quantity to be used. Use clean turbine oil (Class 1, ISOVG32).

Fill oil as following procedure:

- a. Stop primary pressure.

Note: Economist type can be filled oil without stopping primary pressure (by articles b. and c.).

- b. Remove fill plug to make sure that all remaining pressure has gone out, and fill oil from that port.

Note: When filling oil after removing bowl, take fill plug off first and then remove bowl.

When assembling, fix bowl tightly and tighten fill plug.

※ Refer to article 6 for removing and installing bowl.

- c. Fill oil just below max. level, and tighten fill plug.

Note: Oil would not drop with fill plug removed.

- 3) When oil drop quantity decreases, disassemble and clean it in following steps:

- a. Stop primary pressure.

- b. Make sure that all remaining pressure has gone out.

- c-1. Clean filter mounted in siphon tube with neutral detergent if dirty.

- c-2. Remove adjusting screw and clean its needle and body's sheet face, if dirty.

Clean passage from needle sheet face through adapter.

- c-3. Remove sight dome and clean port through air passage, if dirty.

- d. (Atomist type only) When Atomist assy is dirty, remove recrashfier, take Atomist assy out, wash it with neutral detergent, and clean the port by air blow.

- e. Assemble all the parts in reverse procedure.

Finally, tighten fill plug and apply primary pressure.

## 4.2 Troubleshooting

Troubles	Major cause	Countermeasure
Oil does not drop	Insufficient air flow rate, Wrong selection of lubricator model	Check working conditions and min. drop flow rate to review model selection.
	Installation direction is opposite.	Install in right direction as arrow shows.
	Insufficient oil in bowl	Fill up oil before oil becomes lower than min. level shown on bowl.
	Adjusting screw of oil drop quantity is tighten too much.	Adjust to open adequately.
	Viscosity of oil is too thick.	Change oil to designated one.
Air leaks from bowl installed part.	Packing has scratch, or foreign article is attached.	Stop compressed air, remove bowl, and clean or renew packing.
	Bowl is broken.	Stop compressed air, remove bowl, and renew it.



### WARNING

When a flaw, such as a crack or a scratch, is found on the bowl, replace it with a new one. Failure to follow this instruction may result in breakage of the bowl and an accident.



### WARNING

Check the transparent resin bowl regularly for any smears. If there are any smears or it is otherwise unclear, replace it with a new one. Failure to follow this instruction may result in breakage of the bowl and an accident.



### WARNING

When cleaning a transparent resin bowl, use a neutral detergent for home use and rinse it well with water. Any other cleaning method may result in breakage of the bowl and an accident.

## 5. CONSUMABLES AND REPLACEMENT PARTS

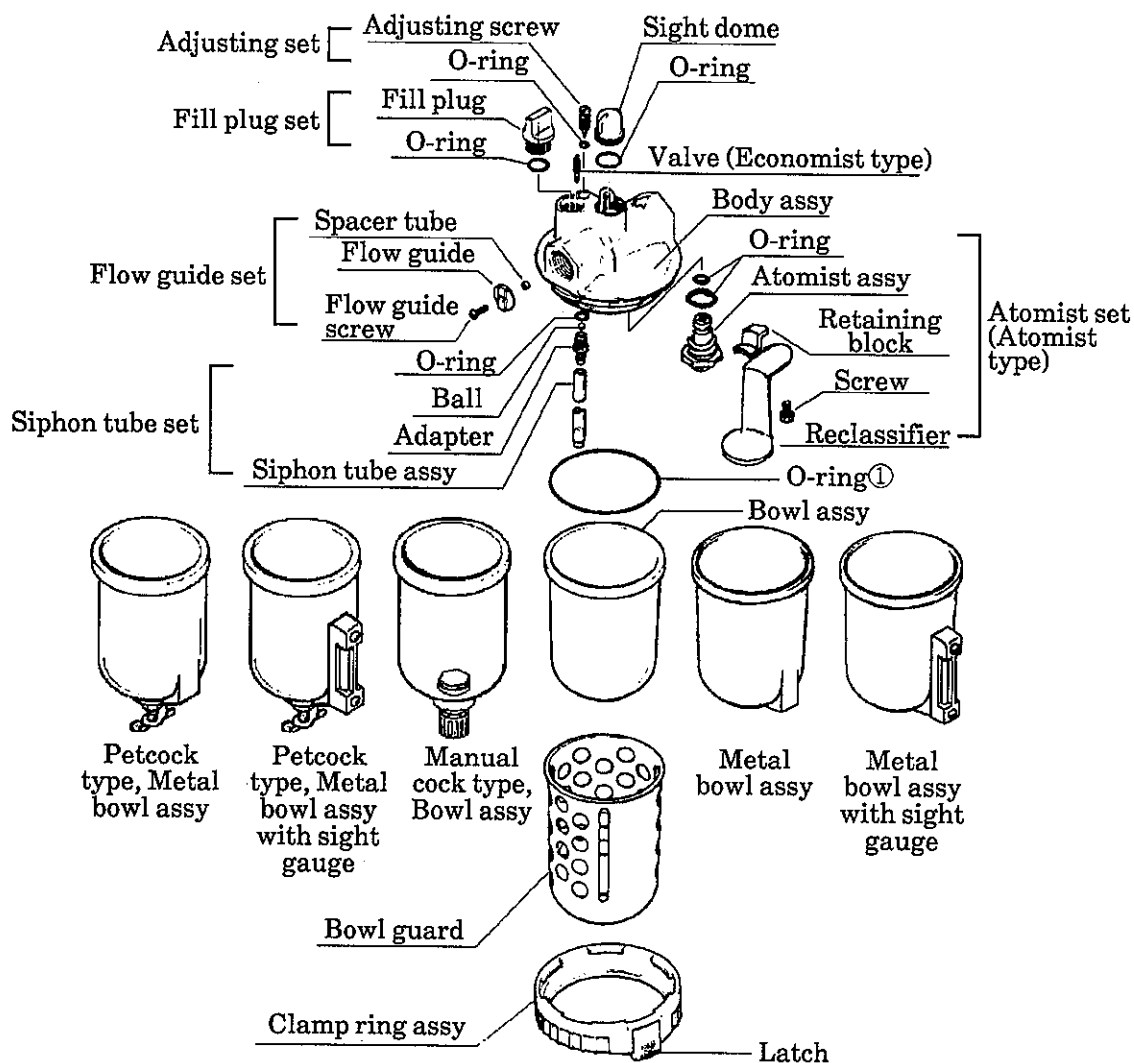
When ordering parts, refer:

Economist type : 3000E -- part code

Atomist type : 3500 -- part code

### Replacement parts list

Model number				Port size	Description	Part code
3000E	3000E-J	3500	3500-J			
○	○	○	○	1/4 · 3/8	Adjusting set	AJ set
○	○	○	○	1/4	Flow guide set	Flow guide 2
○	○	○	○	3/8	Flow guide set	Flow guide 3
○	○	○	○	1/4 · 3/8	Fill plug set	Plug
△	△	○	○	1/4 · 3/8	Atomist set	Atomist
○	○	○	○	1/4 · 3/8	O-ring ①	O ring or 78-081
○	△	○	△	1/4 · 3/8	Siphon tube set	ST set
△	○	△	○	1/4 · 3/8	Siphon tube set	J-ST set










Bowl assy (Refer to article 6. for removing and installing bowl assy)

Bowl size	Appearance shape	Bowl material	Option mark	Parts code		
Standard  No “J” with the option marking	Standard type (Non drainage)	Polycarbonate	No mark	Bowl	or 16-5113	
		Nylon	Z	Bowl-Z	or 16-5113Z	
		Metal	M	Bowl-M	or 15-7195	
		Metal with sight gauge	MG	Bowl-MG	or 15-7201	
	Manual cock type	Polycarbonate	C	Bowl-C	or 15-7158	
		Nylon	CZ	Bowl-CZ	or 15-7158Z	
	Petcock type	Metal	CM	Bowl-CM	or 15-5027	
		Metal with sight gauge	CMG	Bowl-CMG	or 15-5029	
		Jumbo  “J” with the option marking	Standard type (Non drainage)	Polycarbonate	J	Bowl-J
	Nylon			JZ	Bowl-JZ	or 16-5111Z
Metal	JM			Bowl-JM	or 15-7196	
Metal with sight gauge	JMG			Bowl-JMG	or 15-7202	
Manual cock type	Polycarbonate		JC	Bowl-JC	or 15-7159	
	Nylon		JCZ	Bowl-JCZ	or 15-7159Z	
Petcock type	Metal		JCM	Bowl-JCM	or 15-5028	
	Metal with sight gauge		JCMG	Bowl-JCMG	or 15-5030	

## 6. BOWL EXCHANGING

Before removing bowl, stop compressed air, let remaining pressure go out by loosening fill plug, and make sure that there is no pressure left in bowl.

- 1) Pressing latch of clamp ring assy by finger, turn clamp ring assy 30 ° (Turn  mark in latch from LOCK  mark to IN  mark).
- 2) Pull bowl and bowl guard down to remove them together.
- 3) Assembling them can be done by reverse procedure.
- 4) Before applying compressed air, make sure that latch is on LOCK position (  mark in latch meets LOCK  mark in body).

## 7. FLOW GUIDE REPLACING

Before replacing, stop compressed air, and make sure that there is no pressure left inside body or in compressed air circuit.

- 1) Remove piping at "IN" side on body.
- 2) Remove old flow guide assembled at inner part of piping port on "IN" side, together with flow guide screw and spacer tube.
- 3) Install new flow guide, flow guide screw, and spacer tube.  
Note : Install them with convex of flow guide positioned vertically.
- 4) Connect piping on "IN" side according to article 2.
- 5) Ensure that piping is done correctly before applying compressed air.

## 8. SIPHON TUBE REPLACING

Before replacing, stop compressed air, and make sure that there is no pressure left inside body or in IN-OUT piping.

- 1) Remove bowl according to article 6.
- 2) Remove old siphon tube assy, separate adapter by wrench etc., and take out O-ring ball.
- 3) Install new O-ring ball together with adapter.
- 4) Install new siphon tube assy.
- 5) Assemble bowl according to article 6.
- 6) Carry out article 6.4 before applying compressed air.

## 9. ATOMIST REPLACING (Atomist type)

Before replacing, stop compressed air, and make sure that there is no pressure left inside body or in IN-OUT piping.

- 1) Remove bowl according to article 6.
- 2) Remove old Atomist set.
- 3) Install new Atomist set.
- 4) Assemble bowl according to article 6.
- 5) Carry out article 6.4 before applying compressed air.