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SM-190942-A/1

INSTRUCTION MANUAL

AIR FILTERS

1137 Series

- 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.

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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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Air Filter
Manual No. SM-190942-A

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.

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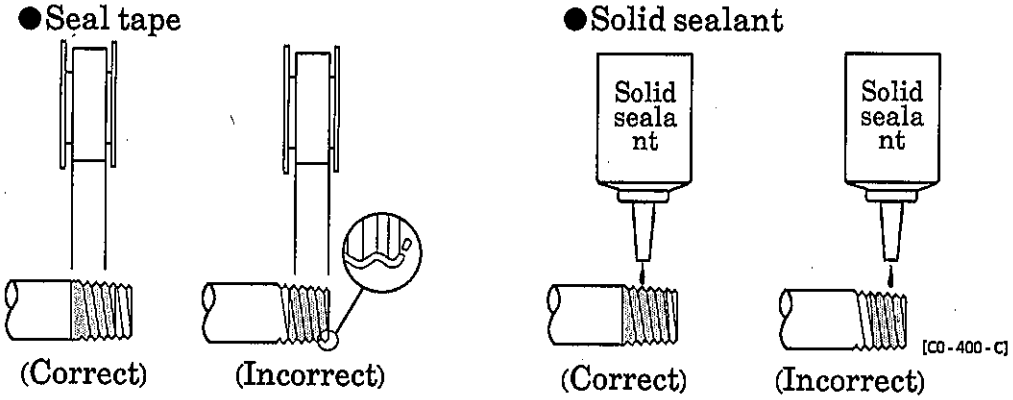
1. CAUTION

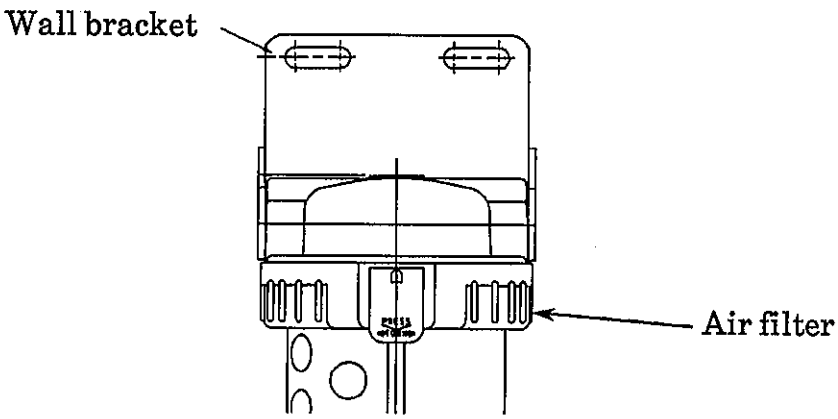
1) Refer to Air filters catalog as for Product specification and Model coding.
2) Avoid its installation where it is exposed sun ray directly.
3) Keep working air pressure no higher than 1.0MPa.
4) Avoid its installation where ambient temperature exceeds 65℃.
5) Never install it in the environment with organic solvent as the bowl is made of polycarbonate resin. Also refer to catalog as for details because chemical proof characteristics varies dependingon material of bowls.
6) Select air compressor of 0.75KW or larger (discharge flow of 90 litre/min or larger) when N.O.automatic drain (Optional "F") is installed.
7) Avoid installation of automatic drain type where drain viscosity is dense. It is recommended to install a heavy duty drain type or Snap drain type in place.

2. INSTALLATION

1) Install it as close by the pnuematic equipment as possible.
2) Install it to have arrow mark on body match the air flow.
3) Install it to have a bowl located downward of line.
4) Withhold application of seal tape or sealant approx. two pitches of thread off the pipe tip so as to keep the residuals of such from falling into pipe or equipment.



5) When to install it together with Wall bracket (Optional "B") do so upon combining filter and bracket (Refer to the illustration below)



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6) Purge line

For plastic bowl : Soft Nylon tube of ID 5.7mm - 6mm can be slipped on directly.

For metal bowl : Automatic drain type is provided a joint tube of Rc1/4 thread. As for manually operated purge cock, there is a female thread of Rc1/8 when the cock is removed. Install a stop valve to make it useful.

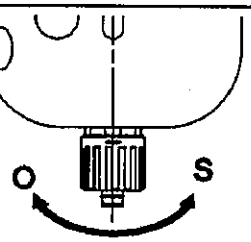
※ For automatic drain type, avoid piping standing up right and keep total length within 5 meters.

7) Leave a room of 60mm under bowl bottom for later maintenance work.

3. OPERATION

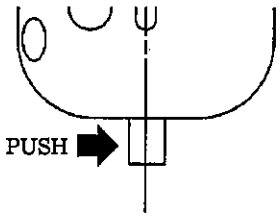
1) Purging drain

Plastic bowl with automatic drain affixed with manual cock



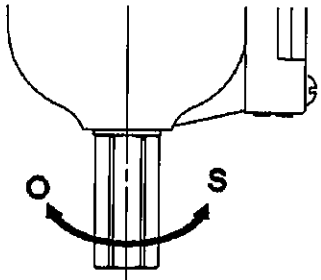
Drain is purged when cock is turned toward O and purging is shut off when cock is turned toward S. The bowl with automatic drain valve purges drain automatically as drain accumulate to a certain level but drain is also purged manually, too.

Plastic bowl with flexible drain



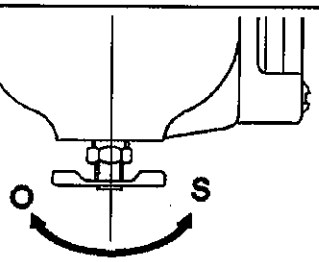
Drain is purged when cock is pushed sideway from any peripheral point in the direction of PUSH ➡ mark, and purging is shut off when pushing is released.

Metal bowl with automatic drain



Drain is purged automatically when drain accumulates to a certain level but is also purged manually. Handling is as same as that of Plastic bowl.
Manual operation, sometimes, is hindered when screwing joint is attached to build purge line.

Metal bowl with pet cock



Drain is purged when cock is turned toward O and purging is shut off when cock is turned toward S.

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4. MAINTENANCE

Before trying to remove the bowl, shut off compressed air, purge residual pressure and verify no more pressure remaines in line.

4.1 Periodic inspection

1) Purge drain periodically to keep its level within upper limit.
Comply with Chapter 3 above regarding purge operation.

2) Clean or wash element periodically to prevent pressure loss.

- 5μm element
  Wash it with household neutral detergent and flush air from inside out to blow water drops. Replace element with new one when washing does not remove the blot.
  (Element model code : 1137- ELEMENT)
- 3μm element "X"
  Replace it with new one every 6 months. Replacing period may be shortened in the event that it become filthier sooner.
  (Element model code : 1137- ELEMENT-X)
- 0.3μm element "Y"
  It is the time of replacement with new one when pressure difference reaches to 0.07MPa.
  (Element model code : 1137- ELEMENT-Y)

3) As for automatic drain "F/F1" clean or wash element (with running water or air flushing) periodically or else replace it with new one to prevent accumulation of solid particles.

Model code of Bowl ass'y with automatic drain

Polycarbonate Bowl	N.O.automatic drain	1137-BOWL-F
	N.C.automatic drain	1137-BOWL-F1
Nylon Bowl	N.O.automatic drain	1137-BOWL-FZ
	N.C.automatic drain	1137-BOWL-F1Z
Metal Bowl	N.O.automatic drain	1137-BOWL-FM
	N.C.automatic drain	1137-BOWL-F1M
Metal Bowl with sight gauge	N.O.automatic drain	1137-BOWL-FMG
	N.C.automatic drain	1137-BOWL-F1MG

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4.2 Trouble Shooting

Troubles	Major causes	Countermeasures
Drain emerges immediately passing filter.	Drain accumulated exceeding the upper limit.	Purge drain. (Refer to Chapter 3. Operation)
Insufficient flow and remarkable pressure drop.	Clogged meshes of filter element.	Remove bowl and element upon shutting off the compressed air then replace or wash the element.
It does not purge even when manual cock is opened.	Foreign particles piled to purging port.	Remove bowl ass'y upon shutting off the compressed air then clean or replace bowl ass'y.
Automatic drain fails to purge dain automatically. Or air leaks through drain port.	Mechanical trouble of automatic drain or clogged dirt. ※ In case of NO automatic drain "F", it purges air while air pressure rises up to 0.1MPa, for the purpose of cleaning inside of bowl.	Remove bowl ass'y upon shutting off the compressed air then clean inside of bowl. Replace bowl ass'y when cleaning does not help regaining the function.
Air leaks through Bowl mounting device.	Defective O ring or foreign particle stuck.	Remove bowl and O ring upon shutting off the compressed air then wash or replace the O ring.
	Damage of bowl itself.	Remove bowl upon shutting off the compressed air then replace the bowl with new one.

⚠ 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.

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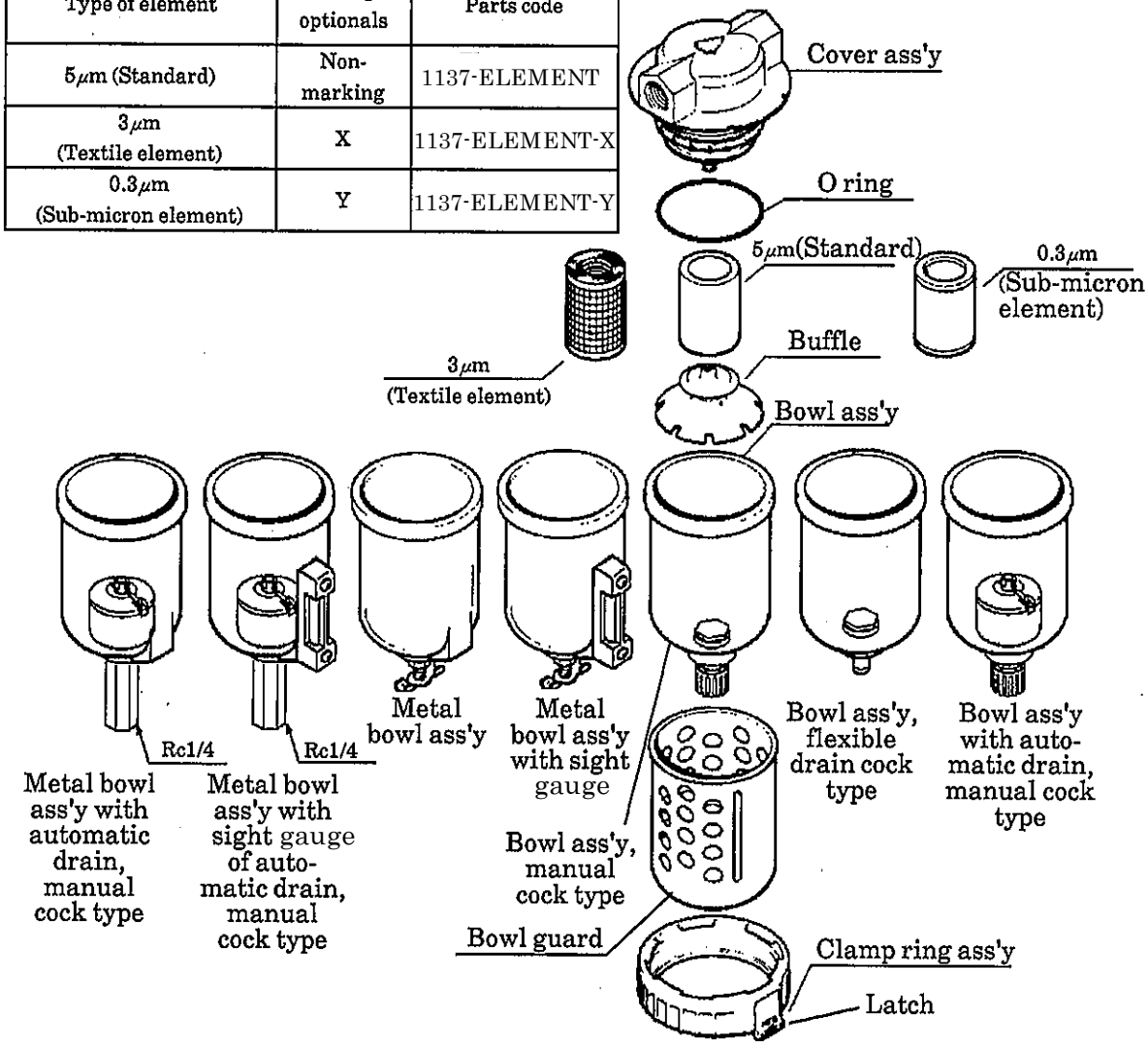
5. EXPENDABLE PARTS AND REPLACING PARTS

O ring : Model code 1137-ORING

Element (Refer to Chapter 7 as for element replacing.)

Type of element	Marking of optionals	Parts code
5μm (Standard)	Non-marking	1137-ELEMENT
3μm (Textile element)	X	1137-ELEMENT-X
0.3μm (Sub-micron element)	Y	1137-ELEMENT-Y



Bowl ass'y (Refer to Chapter 6 as for Bowl ass'y mounting)

Purging cock	Material of bowl	Marking of optionals	Parts model code
Manual cock	Polycarbonate	Non-marking	1137-BOWL
	Nylon	Z	1137-BOWL-Z
Flexible drain	Polycarbonate	E	1137-BOWL-E
	Nylon	EZ	1137-BOWL-EZ
Pet cock	Metal	M	1137-BOWL-M
	Metal with sight gauge	MG	1137-BOWL-MG
NO automatic drain with manual cock	Polycarbonate	F	1137-BOWL-F
	Nylon	FZ	1137-BOWL-FZ
NC automatic drain with manual cock	Polycarbonate	F1	1137-BOWL-F1
	Nylon	F1Z	1137-BOWL-F1Z
Metal bowl, NO automatic drain with manual cock	Metal	FM	1137-BOWL-FM
	Metal with sight gauge	FMG	1137-BOWL-FMG
Metal bowl, NC automatic drain with manual cock	Metal	F1M	1137-BOWL-F1M
	Metal with sight gauge	F1MG	1137-BOWL-F1MG

6. BOWL EXCHANGING

Before trying to remove the bowl, shut off compressed air, purge residual pressure and verify no more pressure remaines.

1) Turn clamp ring ass'y 30° (that is to have ⌂ mark on latch leave ▽ Lock mark and match to IN ▽ marking) while pressing the latch on clamp ring ass'y.
2) Pull the set of bowl downward as is and total ass'y of bowl and bowl guard come out.
3) To re-assemble total set, comply with the reversed steps of dismounting.
4) Before charging compressed air to the system, verify that latch is "Locked" condition. (That is the ⌂ mark on latch is matched to ▽ Lock mark on the body.).

7. ELEMENT REPLACING

1) Remove bowl complying with steps in Chapter 6.
2) Disassemble buffle by turning it counterclockwise.
3) Take out an old element.
4) Relace a new element.
5) Mount buffle and bowl back complying with reversed procedures of disassembling.
6) Make sure to verify each items in Article 6-4 before charging compressed air to the system.