

ULVAC

Inlet/Exhaust Filter for Vacuum Pump

SGT-100

SGT-200

Instruction Manual

Prior to use

For safe and efficient use of this filter, be sure to go through this manual before operation.

After reading the manual, keep it in your file for future reference.

Specifications in this manual are subject to change without notice due to future improvement.




Content

0. For safe operation	0-1~04
1. General	1
2. Specification	1
3. Dimensional drawing	1
4. Element	2
5. Cautions in operation	2
6. Checking before operation	3
7. Installation	3
8. How to replace the element	3
9. Maintenance	4
10. Caution	5
11. Trouble shooting	5
12. Warranty	6



For safe operation

- Please read this instruction manual very carefully before using SGT –

- ① Before using SGT-100,200 please read this 『For safe operation』 and use it carefully.
- ② Ensure to observe the safe operation, preventing from the personal damage or damage to the equipment.
- ③ These signal words as shown in below indicates the damage differ in degree if not strictly observed.

 Danger	This note indicates a potentially hazardous situation which if not strictly observed, could result in injury or damage the equipment.
 Warning	This note indicates a potentially hazardous situation which if not strictly observed, could result in severe personal injury.
 Caution	This note indicates a potentially hazardous situation, which if not strictly observed, could result in slight injury or damage to the equipment.

- ④ The safety remainder is indicated as shown below.

	This note indicates a 『Prohibited』 sign.
	This note indicates a 『Compulsory』 that should do.

- ⑤ 『The safety reminder』 indicates 3items as shown below.

How to operate SGT-100,200 and element (in common usage)

How to operate SGT-100,200

How to handle the element

SGT-100,200 Replace the element (common usage)



Danger

	Ensure that use the designated element and parts. (If not, it causes the problem for gas leakage, heat and explosion.)
	Ensure not to disassemble or remodeling the SGT. (If not, it cause the problem for malfunction.)



Warning






	Ensure that not to drop or damage the SGT. (If not, it causes that problem for malfunction of the equipment.)
	Ensure that not to close to the fire or put in the fire. (If not, it causes the problem for explosion or fire.)
	Ensure that do not touch to the system during operation.
	When remove the SGT-100, 200 after using the poisonous, reactive and inflammable gas from the piping system, purge with N ₂ gas (If not it cause the gas leakage and explosion)



Caution


	Ensure that avoiding to use the SGT in the place of moisture, vibration, dirt, dust or place to get direct sunlight. If not, it cause the problem of damaging the equipment of temperature of the equipment becomes high.
	Ensure that not to mount the SGT on the unstable rack.(If not, it cause the problem of personal injury or accident due to falling.)

SGT-100, 200 Operations

	Ensure that use the SGT at the designated place. (If not, it causes the problem of malfunction of the equipment.)
	Ensure that not to remove the SGT during operation. (If not, it causes the problem of gas leakage, heat and explosion.)
	Ensure that using designated equipment for connection. (If not, it causes the problem of gas leakage, heat and explosion.)
	Ensure that clamp parts or alike are tightened up before using it. (If not, it causes the problem of gas leakage, heat and explosion.)
	When overhaul the SGT, contact your local agency or ULVAC KIKO.



Caution

	Ensure that not to wet the SGT. (If not, it causes the problem for malfunction of the equipment due to moisture. Ensure that take necessary measures to the equipment and place.)
--	---

How to operate the element



Danger

	Ensure that this element is for the SGT-100, 200 uses only.
--	---



Warning

	Ensure that not to press element. (If not, it causes the deformation of the element fabrics.)
	If failed to attach element SGT-100,200, contact your local agency or ULVAC KIKO. (If SGT is not attached properly, it causes the problem of deformation of the element fabrics.)
	Ensure that not to wet the element. (If not, it causes the problem of deformation of the element and also affects to the operation performance.)
	When installing the element, place in hard case as cardboard and install in a place at well ventilated and dry place. (If not, it causes the problem of deformation of the element.)
	Unpacking the element just before using it. Packing is degas processing. (If not, it takes long time for vacuuming due to absorption of the moisture in the air.)
	Ensure that the element should not be cut, bonded or processed. (If not, element does not perform well due to deformation of the element fabrics.)
	If anything from the filtering unit got into your eyes, clean with water. Do not rub your eyes to avoid more damage to your eyes. Consult your doctor for future advise immediately.

4. Element

1) Specification

Type	Dimension	Weight	Color	Package
SDL-250	Outside ϕ 65 x Inside ϕ 25 x H80mm	20g	Yellow	Filled with N ₂ gas

2) Characteristic of packaging and element

The element is packaged with N₂ gas, because the element has tendency to absorb the moisture. Unpack just before installing.

3) Cautions in handling

- ◇ Ensure that install the element just before using it.
- ◇ In case of installing the SGT to the on-off operation vacuum pump, it might affects to the vacuuming performance due to water absorbing of the element.
- ◇ When unpacking the element from the N₂ sealed package, it will immediately start absorbing the moisture and gases. Use the SGT immediately after unpacking. If not, vacuum operation will be prolonged.

4) Installing the element

According to the following procedures, install the element.

1. Remove the wing nut of the housing and put the element. Close the lid again and tighten the wing nut. (Refer to the item 8)
2. Attach the SGT to the pipe of the system and ensure that coupling and flange are attached properly.
3. The time for installing the SGT is about 10 minutes.
4. Start vacuum operation immediately after installing the SGT.
Ensure that the designated pressure is achieved.

5. Cautions in operation

- ① Connect the SGT to system properly.
- ② Ensure that the ambient temperature is below 100°C.
- ③ Ensure that after using the poisonous, inflammable and ignitable gas, purge with N₂ gas. If not, it causes the problem for fire or explosion.
- ④ Ensure that N₂ gas supply is available.
- ⑤ Periodically replacement is required after installing the element.

6. Checking before operation

- ① Ensure that install the INLET and OUTLET of the SGT properly.
- ② Ensure that the element is in the housing. Ensure that tighten the element properly.
- ③ Ensure that wing nut is tightened.
- ④ Ensure that clam for inlet and outlet are tightened.
- ⑤ Installing the vacuum or the pressure gauge at inlet and outlet of SGT is recommended to check the pressure difference. If the pressure difference is large, the element should be replaced.

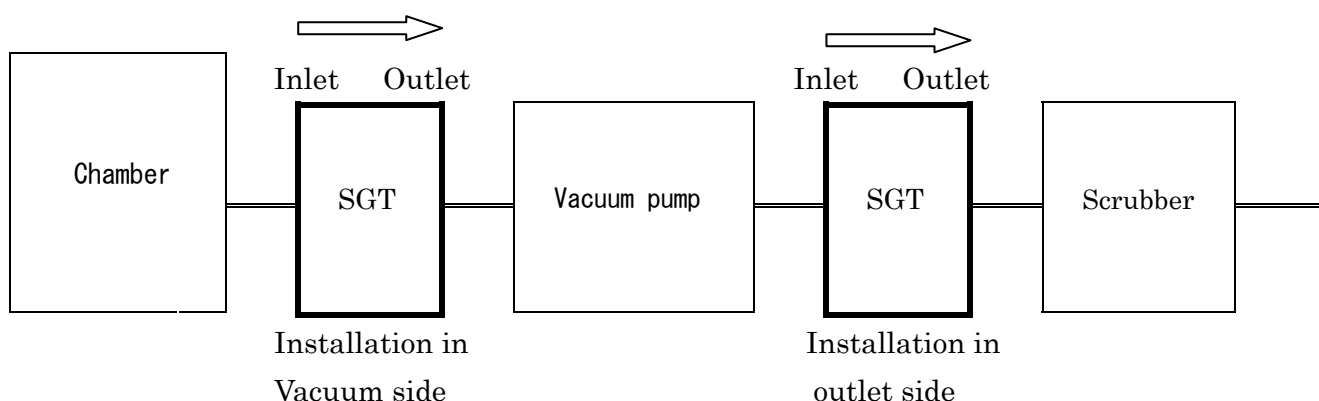
7. Installation

Referring to the figure in below, connect the element with care.

Ensure that there is no leakage.

- In case of installing the exhaust side, install SGT immediately after rough pump.
- In case of vacuum side, install the SGT near the roughing pump for effective use.
- Ensure that connect the SGT firmly. If not, it causes the problem for leakage.

< How to install the element >



8. How to replace the element

Replacement of the element is required if inlet pressure or exhaust pressure start rising.

Caution!

- Ensure that replacing or maintenance of the element should be done at safety place.
- Follow the local or national safety and environmental requirements when disposing the element or any components removed from it.

【 Procedure 】

- ① When exhaust the poisonous gas (poisonous or inflammable), for safety reason, replace the gas in the SGT into N₂ gas.
- ② Remove the wing nut and the lid.
- ③ Remove the wing nut and upper support disc and replace the element.
- ④ Before installing the new element, clean the particles and dirt staying inside of the housing after finish replacing the element, start setting up in a reverse way from detaching.
- ⑤ Dispose the element according local and national safety and environment requirement.
- ⑥ Ensure that each parts are tightened and no leakage.

9. Maintenance

The life expectancy of the element differs depending on operation process, condition, volume of the gas and type of the gas. Make your own list and check the life expectancy of the element. Check the pressure rise by vacuum gauge. Also checking the vacuum exhaust and vacuum degree and use the SGT properly.

If not replacing the element in certain time, it might cause the problem of damaging the equipment.

- Replace of the element

The time that pressure start increasing, replacement of element is required.
or periodically replacement is required.

- Guideline of the replacement time of element at the inlet side.
- Guideline of the replacement time of element at the exhaust side.
- Pressure is depending on the vacuum pump operation. Referring to the each pump's back pressure limit, guiding the pressure range.

General dry pump back pressure is about 0.2~0.3kg/cm.

- When replacing the element, wear the designated protection cloth, glove or goggle.
After removing the poisonous and inflammable gas with N₂, replace the element.
- When disposing or cleaning the SGT, according with all local and national safety and environmental requirements.

10. Caution

Prior to operation, read this manual carefully and operate the pump using with great care and responsibility. When installing to the SGT process, take necessary measures to prevent from damaging the equipment.

<Other>

If any abnormality such as defective condition is found in the equipment, stop the operation immediately and contact your local agency or ULVAC KIKO.

11. Trouble shooting

Trouble symptom	How to check	Result	Corrective action
① Element is clogged	Check pressure difference between inlet and outlet side	Pressure difference Large	Replace the element
		Pressure difference None	Able to use
	Check the particle at INLET pipe flange parts (Visual look)	Large	Cleaning is required also check the element ensure that no clogging.
		Small	Continue to use
② corrosion of the inside housing	Visual look	Bad corrosion and partly coming off	Replace the housing
		Corrosion only	Continue to use
③ Vacuum performance is not satisfactory	Check the element According to item ①	According to item ①	According to item ①
	O-ring (upper lid)	Good	O-ring is satisfactory
		Damage, crack and hardening	Replace O-ring
	• SGT leak check for piping system	Good	Satisfactory
		Unsatisfactory	Repair
	Check the foreign body (visual look)	Foreign body	Remove
		No foreign body	Satisfactory

※ Element is completely sealed with degas condition by ULVAC KIKO.

Open the package just before using SGT-100, 200.

12. Warranty

This filter is warranted for a period of twelve (12) months from the date of delivery. Troubles imputable to defects in material or workman ship during normal operation within this warranty period will be corrected by ULVAC KIKO free of charge. However, the following are not covered by this warranty.

- (1) Troubles imputable to misuse, abuse or operation not in conformity with the instructions given in this manual.
- (2) Troubles caused by inflammable gas or corrosive gas, use in a dusty place or a place where temperature and/or humidity is high, use under special conditions such as radiation or other.
- (3) Troubles caused by modification or repair by an unauthorized person.
- (4) Troubles caused by acts of god or force majeure.
- (5) Consumables
- (6) Troubles caused by unusual high internal pressure, such as operating the pump with the filter plugged.
- (7) Troubles caused by operating conditions deemed not suited to this filter by ULVAC engineer.

This warranty is limited to repair or replacement of defective parts.

Conclusion

This manual contains only general information about filter and operation.

Therefore, if you come up with any questions or trouble, contact your local agency or ULVAC KIKO.

Sales, service agency, and the where to make contact

<Sales Office>

Sales Division & Overseas Division & Yokohama Branch
1-10-4, Kitashinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa Prf. Japan

Yokohama branch: TEL (81) 45-533-0203 FAX (81) 45-533-0204
Overseas Division: TEL (81) 45-533-0206 FAX (81) 45-533-0204

Osaka Branch

3-3-31 Miyahara, Yodogawa-ku, Osaka-shi, Osaka-fu Japan
TEL(81)6-6350-2166 FAX(81)6-6350-2169

Nagoya Branch

3-11-31 Sakae, Naka-ku, Nagoya-shi, Aichi Prf. Japan
TEL(81)52-249-5121 FAX(81)52-249-5122

<Service Office>

Yokohama Branch

1-10-4, Kitashinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa Prf. Japan
TEL(81)45-533-0509 FAX(81)45-533-0512

Miyazaki Branch

291-7 Chausubaru, Saito-shi, Miyazaki Prf. Japan
TEL(81)983-42-4135 FAX(81)983-43-2159

ULVAC GmbH

Klausnerring 4 85551 Kirchheim b. München, Germany
TEL(49)89-96-0909-0 FAX(49)89-96-0909-96

ULVAC KIKO, Inc.

www.ulvac-kiko.com

HEAD OFFICE/ Miyazaki Plant

291-7 Chausubaru, Saito-shi, Miyazaki Prf. Japan
TEL : (81)983-42-1411
FAX : (81) 983-42-1422