

SULFUR DIOXIDE CARTRIDGE KGC-1L(S)

The cartridge works against sulfur dioxide and dusts (category S1) if used with a mighty micron pre-filter type 1 (option).



**Read User Instruction of gas mask prior to use.
Do NOT open the bag until just before the use.**

• Scope of applications

This cartridge is designed to be used in the environment where "there is sulfur dioxide but the use of particulate respirator is not required." If used with a mighty micron pre-filter type 1 (option), it can be used in the environment where "there are sulfur dioxide and dusts." In both cases, the conditions described in the following "⚠DANGER" must be satisfied.



Make sure all of the following conditions are satisfied.

① 18% or more of oxygen concentration. ② Toxic gas contamination level at the workplace is less than 0.1%. ③ The targeted gas is the sulfur dioxide that can be removed by the sulfur dioxide cartridge. ④ Average toxic gas concentration level is less than 10 times of the exposure limit. (If the duration of work per day is less than 30 minutes, the concentration level must be less than 30 times of the exposure limit). (Standard of Japan Respirator Manufacturers Association). ⑤ Particulate respirator is not required at the workplace. If used with a mighty micron pre-filter type 1 (option), it can be used in the dust environment; however, its use must be avoided at the workplace if:

- there is a possibility of contamination of spilled radioactive substances.
- there is an exposure risk to dioxin.
- metal fume (including welding fume) diffuses.
- substances, with a standard control concentration level less than 0.1mg/m³, diffuse.
- there is an oil mist.
- or any environment corresponding to the above conditions.

• Specifications

	KGC-1L(S) only	with the use of a mighty micron pre-filter type 1 (option)
Decontamination efficiency(*)	more than 70 min.	more than 70 min.
Air flow resistance	less than 115Pa	less than 235Pa
Particulate filtering efficiency (NaCl)	-	more than 80.0%
Increased value of inhalation resistance	-	less than 1,000Pa
Weight	79.5 +/- 6g	90.5 +/- 6.5g

*Test gas: sulfur dioxide 300ppm, temperature: 20°C, relative humidity: 50%
Shelf life of unused cartridge is 2 years from the date of manufacturing.

• Fit test

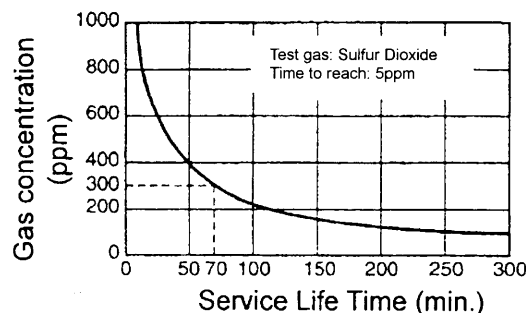
- ① Completely cover the cartridge with fit tester type L (option). Don the respirator, close the end of the pipe by pinching it with thumb and forefinger, and inhale. If the respirator is slightly drawn towards face, good fit is obtained.
- ② If there is inward leakage, inspect the exhalation valve area, check the installation condition of the cartridge, and adjust the tightness of the headband and the position of the respirator. Perform ① again.

• Estimated service life of the cartridge (Instructions for use).

Decontamination efficiency will drop out if used beyond the limit. Replace with a new cartridge if any of the following three conditions occurs.

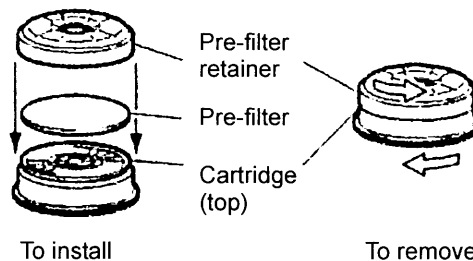
- ① Accumulation of time elapsed meets the service life time calculated by the breakthrough curve. Check the gas concentration level at the workplace and plot it on the Y-axis. Draw an extension line from the point on the Y-axis, parallel to the X-axis towards the breakthrough curve. Read the value on the X-axis where the extension line meets the curve. The corresponding point on the X-axis by way of the breakthrough curve is the estimated service life of the cartridge. (ex. With the sulfur dioxide concentration level of 300ppm, service life is approximately 70 minutes).
- ② The wearer feels gas smell, or difficulty in breathing.
- ③ The filtering efficiency against dust gets remarkably decreased. Or the filter gets damaged or distorted (when used with a mighty micron pre-filter type 1 (option)).

Breakthrough curve



● **Installation of particulate filter** (with the use of a mighty micron pre-filter type 1 (option)).

Place a new mighty micron pre-filter type 1 (option) onto the pre-filter retainer (option) and install it on top of the cartridge (the side with groove). To remove the used filter, rotate the pre-filter retainer (option).



WARNING

- Estimated service life using the breakthrough table is just for your reference purpose only. Replace cartridge with a new one well in advance for your safety. Service life also depends on air volume breathed, humidity and temperature.
- Breakthrough table attached to the cartridge has been made based on test gases that are specified by Japanese national assay standard and JIS. Even with the same cartridge, service life can vary, depending on the type of gas.
- Even it is within the estimated service life, if you noticed gas smell, gas stimulation, and/or gas taste, immediately escape to safe and clean air area, and replace the cartridge with a new one.
- Make sure to perform a fit test prior to each use.
- If you work in a dust environment, use a mighty micron pre-filter type 1 (option).
- Do NOT re-use the used mighty micron pre-filter by flipping it over.

CAUTION

- It is dangerous to estimate the service life only by smell. Sense of smell varies between individuals. And you can be slowly got eased into gas.

● **Record of used time**

(Fill the used time in the blanks, and replace the cartridge when the total used time reaches to the estimated service life).

yy / mm / dd	/ /	/ /	/ /	/ /	/ /	/ /	/ /
Used time (min.)							
Total used time (min.)							

Type of gas:

User name:



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