

User Instruction

- Before use of this respirator, read carefully and understand this User Instruction of Model 1021R to obtain designed protection.
- Keep this User Instruction as useful reference if you have any questions during usage.

Replaceable Type Particulate Respirator (Direct connection type, Half facepiece Category: RL2)

Model 1021R

Silicone Facepiece

Model Revision 1021R-06
Japan National Assay Registration
No.TM207

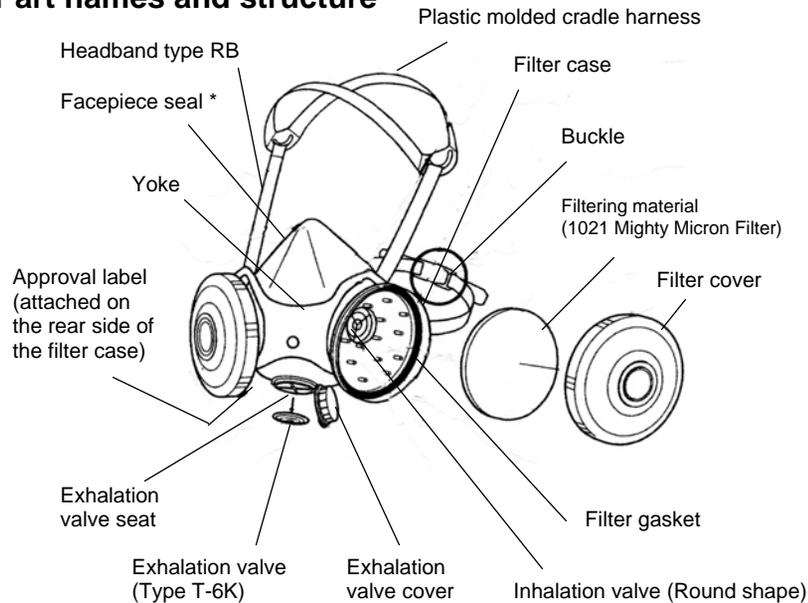
Scope of applications

Model 1021R is a particulate respirator designed to protect the wearer from breathing particulates, etc. Regardless of the presence of oil mist, Model 1021R can be used in the workplaces where:

- Metal fume (including welding fume) diffuses;
- Particulate substances with control concentration of less than 0.1mg/m³ diffuse; and/or,
- Any works corresponding to the above working environments;
- Works in which the use of respirators for asbestos removal, categorized as Category 4, is permitted.

However, never use Model 1021R in the environment described as "△DANGER" below.

Part names and structure



*Before use, make sure that approval label is attached on the respirator. Approval label is attached on the rear side of the filter case.

For safe and proper usage

The following special messages may appear throughout this User Instruction to warn the wearer of potential hazard. Before reading the User Instruction, please make sure to read the definitions of the special messages and understand the contents.

- △ DANGER** indicates an imminently hazardous situation. Unless following the instructions, there is a high possibility of resulting in **death or serious injury**.
- △ WARNING** indicates a potentially hazardous situation. Unless following the instructions, there is possibility of resulting in **death or serious injury**.
- △ CAUTION** indicates a potentially hazardous situation. Unless following the instructions, there is possibility of resulting in **light injury or damage accident**.

* Facepiece is available in two sizes: Size M (standard) and Size S.

1021KC Welder's Ozone Filter for 1021R, designed to remove ozone which is generated during welding, and 1021KB Odor Filter for 1021R, designed to remove odor such as mercaptan series, are also available (option).

△DANGER

- **Do NOT use this respirator in oxygen-deficient environment (where the concentration of oxygen is less than 18%) or workplace where the concentration of oxygen is unknown or toxic gas exists.**
Misuse will result in death or acute intoxication due to lack of oxygen and/or gas inhalation. Use supplied air respirator in such environment.
- **Do NOT use this respirator in workplace categorized as "Working environment with a possibility of exposure to radioactive materials due to spillage or related emergency works," "Working environment in which the use of respirators for asbestos removal, categorized in other than Category 4, is required," "Working environment with a possibility of exposure to dioxin, etc.," or "Any related works."**
For these works, use proper respiratory protective devices such as particulate respirators with protective performance categorized in Japan National Assay as RS3, RL3 or better.
- **Make sure to use Model 1021R in normal temperature.**

How to use

Inspections prior to use

Make sure to perform the following inspections before donning the respirator. (Refer to "Inspection Procedure" (Page 4) for more details).

Check Points	Troubleshooting
Are components, such as filtering materials, inhalation valves and exhalation valve, properly installed?	Install all components properly.
Are there any damages, such as cracks, distortions and/or scars, remarkable dirt, or adherence of foreign objects on inhalation valves, exhalation valve and/or facepiece, etc.?	Replace the part or respirator with a new one. Clean the part and/or respirator when remarkable dirt, adherence of foreign objects, etc. are found.
Are there any damages, such as distortions and holes, remarkable dirt or moistness on filtering materials?	Replace the filtering materials with new ones.
Is headband well elastic without dirt, deteriorations and/or damages?	Replace the headband with a new one.

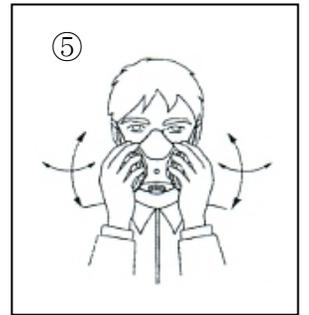
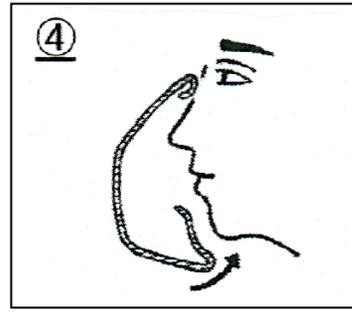
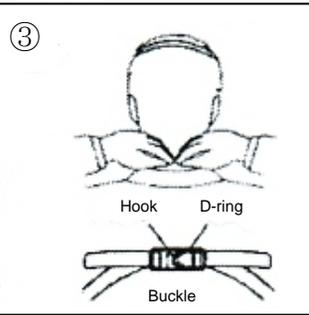
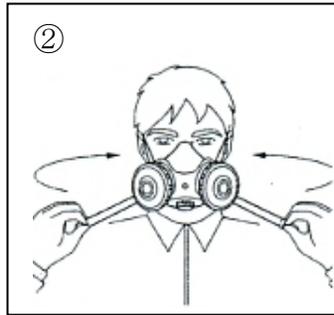
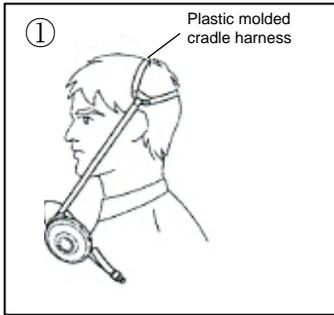
△WARNING

- **Make sure that facepiece is well fit on the face. Check the fitness according to the "Performing fit test." (Page 2).**
- **Airtight cannot be maintained under the following conditions as hazardous substance may leak into the facepiece. Do NOT use this respirator until any improvements are performed.**
 - There is beard, sideburns and/or hair that comes inside the face-contacting area of the respirator.
 - There is mustache and/or chin beard that interfere the operation of the exhalation valve.
- **Do NOT use the respirator if the wearer has a disorder in respiratory or circulatory system, or is claimed inappropriate by a doctor.**
- **Be careful not to bump the respirator when working in a confined space.**
The respirator may be dislocated, resulting in the leakage of hazardous substance.

Fitting instructions

Perform in clean place without hazardous substance.

- ① Place the plastic molded cradle harness on your crown of head.
- ② Hold buckles (hook and D-ring) on the headband and pull them evenly so that the respirator approaches to your face.
- ③ Fasten the buckles on the back of your neck.
- ④ Adjust the length of the headband following <Adjustment of headband length>, place the facepiece over the bridge of your nose so that it stays completely over face, and then, place it over chin.
- ⑤ Adjust the respirator position on face for stable position by aligning it left and right, up and down.
- ⑥ Make sure to perform fit test after donning is completed.
- ⑦ To remove the respirator, remove the buckles.



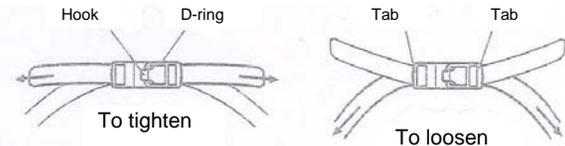
< Adjustment of headband length >

Adjust the length of the headband so that there is no slight opening between respirator and face. Also make sure not to over-tighten the headband to avoid oppression.

Perform the adjustment of headband length according to the following procedure.

*Make sure that the headband is evenly tightened.

- ① To tighten, pull the headband on the hook side and D-ring side.
- ② To loosen, release the tension of the headband by lifting both tabs of the hook and D-ring.



CAUTION

- If the length of the headband cannot be adjusted, make the adjustment following <Adjustment of headband length>.
- Make sure that the headband is well elastic and has enough strength for tightening.
- If the headband is over-tightened, feeling of fitness may worsen, and the wearer may experience a feeling of discomfort after working for a long time.
- After adjustment, make sure to perform fit test.

WARNING

The respirator may not be donned properly, and it may not fit on face, unless following the warnings below.

- **Do NOT wear the respirator on towel applied over face.** Particulates may leak into the facepiece.
- **When donning, make sure that the length of the headband on the right and left is even.** If the headband is over-extended, or the length of one side of the headband is much longer than the other, it may get caught into machines, etc.
- **The wearer with allergic tendency and/or fragile skin may suffer from rough skin surface, eczema, etc. by using the respirator. And the similar symptom may occur due to sweat, particulates and/or dirt attached on the surface of the facepiece. In such case, stop using the respirator and consult with a doctor.**
- **In case proper donning cannot be maintained, such as dislocation of the respirator while working, move to a clean area without hazardous substance and don the respirator properly again.**

Performing fit test

Perform fit test in clean place without hazardous substance.



- ① Install fit tester type F (option) over the inhalation openings. Install a lid-shaped fit tester on one side, and a pipe-shaped fit tester on another.
- ② Don the respirator, pinch the end of the pipe on the fit tester with fingers, and inhale.
- ③ Good fit is obtained if the facepiece is pressed against the wearer's face.

- ④ Good fit is not obtained if the wearer feels the leakage of air between facepiece and face. Re-inspect the respirator (inspection of various parts (mainly exhalation valve and installation condition of filter), adjustment of headband, adjustment of the position of the respirator, etc.) and perform ① ~③ again.
- ⑤ If good fit is obtained, make sure to remove the fit testers from the respirator before entering into the workplace.

WARNING

- **Make sure to perform fit test prior to each use.** If not donned properly, particulates may leak from the opening between face and facepiece and be inhaled.
- **Make sure that the respirator would not be dislocated while removing the fit testers.**

Replacement of headband

Replace headband in clean place without hazardous substance.

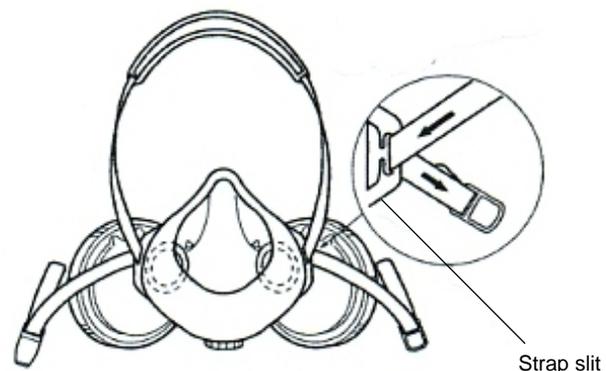
Replacement schedule

Replace the headband with a new one when:

- ⊙ Remarkable dirt and/or sticky surface due to deterioration of rubber is observed on the headband;
- ⊙ Headband is not fully-elastic and/or it does not have enough strength to hold the respirator;
- ⊙ Cracks, distortions, damages, etc. are observed on buckles and/or plastic molded cradle harness; and/or,
- ⊙ Buckles cannot be securely fastened or disconnected easily.

Replacement procedure

- ① Remove the headband straps through the strap slit located on the left/right sides of the headband holders.
- ② To install a new headband, insert the straps of the new headband through the strap slits from the facepiece side.



Rear side of Model 1021R

Caution: Be sure with strap direction. Do NOT twist straps.

Replacement of filtering material (filter)

Replace filtering material in clean place without hazardous substance.

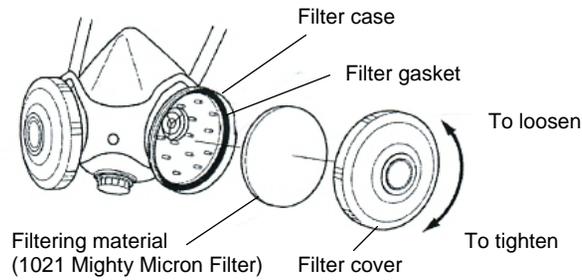
Replacement schedule

Replace filtering materials with new ones when:

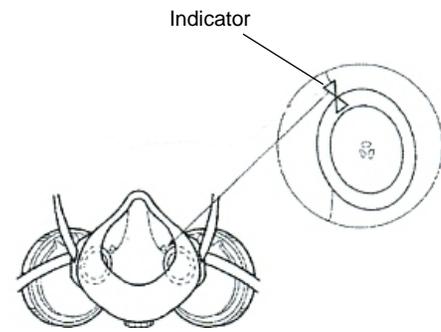
- ⊙ Breathing becomes difficult;
- ⊙ Damages such as distortions, holes, etc., remarkable dirt and/or moistness is found on the filtering material; and/or,
- ⊙ Filtering efficiency gets remarkably decreased.

Replacement procedure

Filtering materials for replacement are packaged by two pieces in each bag. Take the new filtering materials out of the bag. Make sure to replace both filtering materials simultaneously, according to the following procedure.



- ① Remove the filter cover by turning it counterclockwise.
- ② Remove the used filtering material located inside the filter cover. *1
- ③ Make sure that the filter gasket is securely installed all the way to the end without misalignment, deformation, etc.
- ④ Place one piece of Mighty Micron Filter on the filter gasket without gap, misalignment and/or deformation. *2
- ⑤ Place the filter cover on the filter case. Turn the filter cover clockwise until it stops.
- ⑥ Make sure that the thread of the filter case is not misaligned and/or deformed.
- ⑦ Make sure that the indicators, stamped inside the facepiece, stay at the same position.



WARNING

- **Do NOT re-use the used filtering material by flipping it over.** Particulates captured by the filtering material may diffuse and be inhaled. It could cause pneumoconiosis, or in some cases, addiction depending on the type of particulates inhaled.

*1 Dispose of the used filtering materials in a sealed container or bag so that captured particulates not diffuse.
*2 When 1021KC Welder's Ozone Filter for 1021R (option) or 1021KB Odor Filter for 1021R (option) is used, make sure to place the KC/KB Filter between filter case and filtering material.

Replacement of inhalation valve / exhalation valve

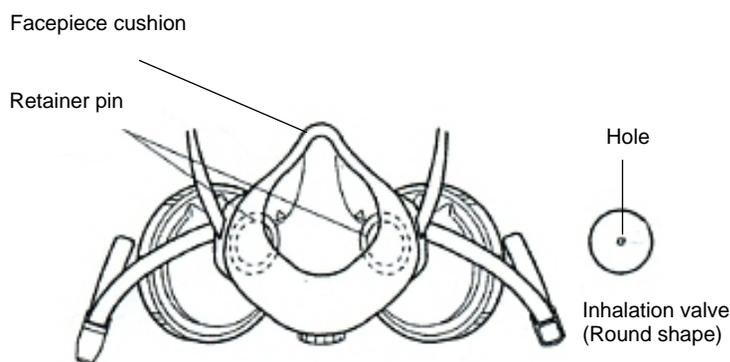
Replace inhalation valve / exhalation valve in clean place without hazardous substance.

Replacement schedule of inhalation valve / exhalation valve

- ⊙ Replace when damages, such as cracks, distortions, scars, etc., dirt, and/or sticky surface due to rubber deterioration are observed.

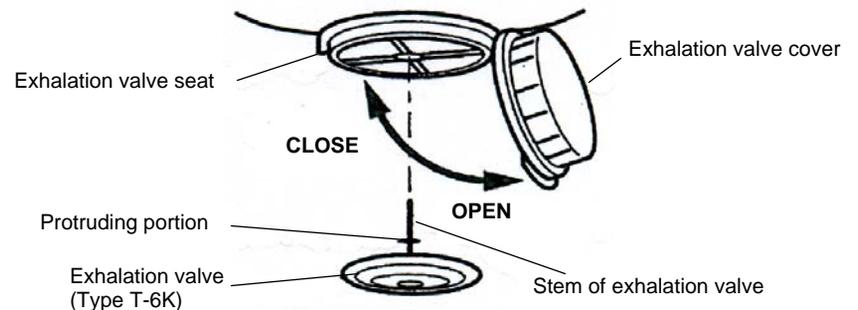
Replacement procedure of inhalation valve

- ① Remove worn inhalation valves from retainer pins of the valve seats located inside the respirator.
- ② Place new valves in position. Widen the hole located at the center of the valve with fingers so that the retainer pin easily goes through the hole.



Replacement procedure of exhalation valve

- ① Open exhalation valve cover located at the lower part of the facepiece..
- ② Pinch the used exhalation valve with fingers and remove it from the respirator.
- ③ To install a new exhalation valve, insert the stem of the new exhalation valve into the hole located at the center of the exhalation valve seat. With fingers, pinch the stem of the exhalation valve which comes out inside the respirator, and pull it until the protruding portion on the stem comes out.
- ④ Completely close the exhalation valve cover.



WARNING

- **Make sure that the exhalation valve not get scarred.**

Optional accessories and usage

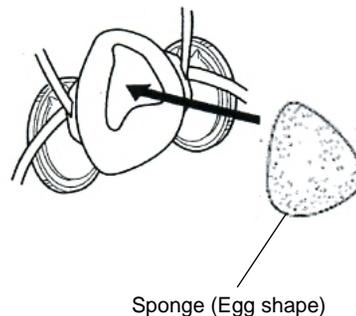
Perform in clean place without hazardous substance.

●Sponge (Egg shape)

Use when the wearer feels discomfort on moisture or sweat accumulated inside of the respirator.

How to use

Insert the sponge with its narrow end up into the inside of the facepiece. Make sure that it does not interfere the movement of the exhalation valve.

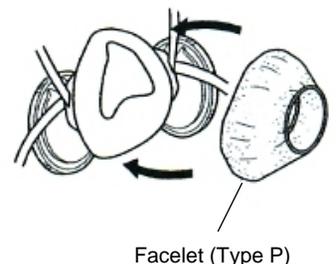


●Facelet (Type P)

Facelet avoids irritation due to sweat on skin which makes contact with the facepiece.

How to use

Expand the rim of the facelet and cover it over the facepiece evenly so that it stays without crimp.



WARNING

- **Avoid using the facelet unless there is a possibility where the use of the particulate respirator causes eczema on facial skin and sufficient airtight is obtained on facepiece.** The use of the facelet may become a cause of leakage of particulates into the facepiece.

Inspection procedure Perform in clean place without hazardous substance.

Maintenance and storage Make sure to perform maintenance after each use and keep the respirator clean.

Check points	Criteria	Troubleshooting
Facepiece seal	No damages such as cracks, distortions, holes, etc., no sticky surface due to rubber deterioration and/or no remarkable dirt are found.	Replace the respirator with a new one. Clean the respirator if remarkable dirt and/or adherence of foreign objects are found.
Yoke Filter case	No damages such as cracks, distortions, holes, etc. and/or no remarkable dirt are found. The filtering material is installed and securely stays inside the filter case.	
Exhalation valve seat Exhalation valve cover	No damages such as cracks, distortions, scars, etc., no remarkable dirt and/or no adherence of foreign objects are found.	
Exhalation valve	No damages such as cracks, distortions, scars, holes, etc. and/or no sticky surface due to rubber deterioration are found. The exhalation valve operates properly without the adherence of remarkable dirt and/or foreign objects.	Replace the exhalation valve with a new one. When the adherence of remarkable dirt and/or foreign objects is found, clean the exhalation valve and make sure if it operates properly.
Inhalation valve Filter gasket	No damages such as cracks, distortions, scars and/or no sticky surface due to rubber deterioration are found. No adherence of remarkable dirt and/or foreign objects is found.	Replace the inhalation valves, filter gaskets, and/or filter covers with new ones. Clean the parts if adherence of remarkable dirt and/or foreign objects is found.
Filter cover	No damages such as cracks, distortions, scars, etc. and/or no remarkable dirt are found.	
Headband	Straps	No remarkable dirt and/or no sticky surface due to rubber deterioration are found. Fully-elastic. It keeps necessary strength to hold respirator.
	Buckles, Plastic molded cradle harness	No cracks, no distortions, no damages and/or no chips are found. Buckles can be securely fastened and disconnected at ease.
Filtering materials	External appearance	No damages such as distortions, holes, etc., no remarkable dirt and/or no excessive moistness are found.
	Inhalation resistance	Breathing is not difficult when donning the respirator.
Overall status when all components are installed.	All components are not missed and/or there are no gaps at connecting points. All components are properly installed.	Install the missing parts or replace the parts with new ones. Properly install the components.

For cleaning, refer to "Cleaning after use".

● **Specifications**

	Internal standard	Average
Filtering efficiency (Test particulate: DOP)	95.0% or more	98.8%
Inhalation resistance	80Pa or less	56Pa
Exhalation resistance	52Pa or less	34Pa
Increased value of inhalation resistance	-	75Pa
Increased value of carbon dioxide concentration / Dead space	0.7% or less / 280cm ³ or less	0.56% / 224cm ³
Weight	170g or less	150g

The values above represent the performance level with the use of standard headband, and without optional parts, etc.

Replacement parts

- Call Koken or local distributor to purchase the following replacement parts.
- Filtering material 1021 Mighty Micron Filter (2pcs per set)
 - Filter gasket Filter gasket type 1021-II (10pcs per bag)
 - Filter cover Filter cover type 1021-II (10pcs per bag)
 - Inhalation valve Inhalation valve round shape (black) (5pcs per bag)
 - Exhalation valve Exhalation valve type T-6K (5pcs per bag)
 - Headband Headband type RB (5pcs per bag)
 - Sponge Sponge egg shape (50pcs per bag)
 - Cloth to avoid skin irritation due to sweat Facelet type P (5pcs per bag)

Optional parts (sold separately)

- Fit tester for ensuring the fitness between respirator and face Fit tester type F (one set)
- Auxiliary filter to remove ozone odor 1021KC Welder's Ozone Filter for 1021R (10pcs per bag)
- Auxiliary filter to remove mercaptan odor 1021KB Odor Filter for 1021R (10pcs per bag)

1. Cleaning after use.

Perform cleaning in clean place without hazardous substance.

● **Filtering material**

When time for replacement is approaching, dispose of the used filtering material in sealed bag without disassembling or cleaning

WARNING

- **NEVER attempt the followings, or the filtering material could be distorted or damaged, or the filtering performance be decreased.**
- **Do NOT apply unnecessary impact on the filtering material to get rid of captured particulates, for example.**
- **Do NOT use compressed air to blow away captured particulates attached on the filtering material. Do NOT vacuum captured particulates attached on the filtering material.**
- **Do NOT wash the filtering material in water.**

WARNING

- **Do NOT re-use cleaned filtering material that was exposed to highly toxic particulates such as arsenic, chrome, asbestos, etc. (Dispose of the filtering material after each use).**

● **Parts other than filtering material**

CAUTION

- **Make sure to remove the filtering material before cleaning respirator.**

- Gently wipe attached particulates and dirt such as sweat with a dry or slightly wet cloth. Be sure not to damage the respirator.
- Clean remarkable dirt with mild detergent diluted with warm water. Be careful not to scratch respirator, especially for the exhalation valve seat and exhalation valve. Then remove detergent by rinsing completely.
- Wipe out residual water after cleaning and dry it out of direct sunlight.
- Disinfect facial contact area and inside of the facepiece by wiping it with alcohol-soaked cloth. Then wipe the alcohol out completely.

CAUTION

- **Always keep facial contact area clean.**
- **Dirt attached on the facial contact area could cause rough skin and skin irritation.**
- **If alcohol for disinfection is used, dry the respirator completely or wipe water completely after rinsing it with water.**

2. Storage

● **Place for storage**

After cleaning, avoid places where particulates diffuse, with heavy temperature fluctuations and/or high humidity and store the respirator under dry condition. Do NOT pile up the cleaned respirators, as the facepiece, headband, etc. could be cracked and/or distorted. Avoid direct sunlight for storage. Prepare an exclusive storage place so that the storage condition can be checked at ease.



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