

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.

For Industrial Use ONLY

This product is designed for industrial use only. Make sure that this product be used by persons who:

- Have sufficient knowledge on occupational health and safety and respiratory protective equipment; or,
- Work under the close supervision of personnel with sufficient knowledge.

Model 1021R-07

Japan National Assay Registration No. TM545

*Before use, make sure that the approval label is attached on the respirator.

Approval labels are attached on the filter cover and the rear side of the filter case.

Replaceable Type Particulate Respirator

Silicone facepiece (Direct connection type, half-facepiece, Category: RL2)

Model 1021R

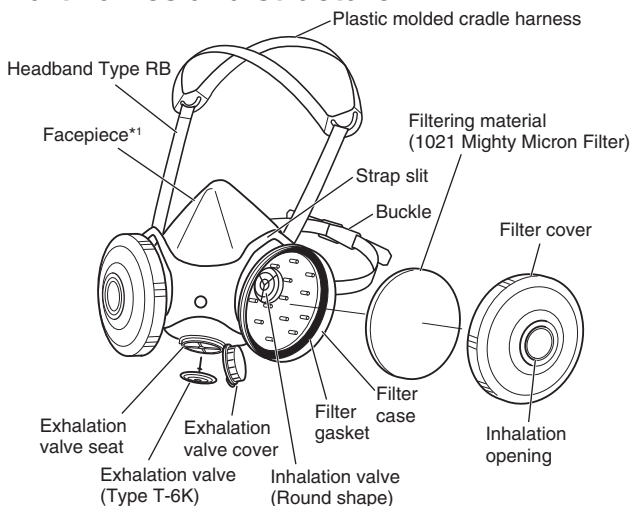
Scope of applications

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

- Metal fume (including welding fume) diffuses;
- Particulate substances with control concentration of 0.1mg³ or less diffuse;
- The use of particulate respirators categorized under the Category 4 for asbestos removal is allowed; and/or,
- Any works corresponding to the above working environments.

However, NEVER use Model 1021R in the environment specified in the "⚠ DANGER" below.

Part names and structure



*1 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 mercaptans, are also available (option).

How to use

Make sure to use only the Koken genuine parts.

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 parts such as filtering material, inhalation valve, exhalation valve, etc. properly installed? | Install all parts properly. |
| Are there any damages such as cracks, distortions and/or scars, or adherence of remarkable dirt or foreign objects on inhalation valve, exhalation valve and/or facepiece? | Replace the parts or respirator with new ones. Clean the parts when adherence of remarkable dirt and/or foreign objects is observed. |
| Are there any damages such as distortion or hole or adherence of remarkable dirt on filtering material? | Replace the filtering material with a new one. |
| Is headband well elastic without dirt, damages and/or deterioration? | Replace the headband with a new one. |

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 a possibility of resulting in **death or serious injury**.



CAUTION indicates a potentially hazardous situation. Unless following the instructions, there is a possibility of resulting in **light injury or damage accident**.



- **Do NOT use this respirator in oxygen-deficient environment (where the concentration of oxygen is less than 18%) or workplaces 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 workplaces categorized as "Working environment with a possibility of exposure to radioactive materials due to spillage or related emergency works," "Working environment involving asbestos removal where the use of particulate respirators categorized under categories other than Category 4 is required," "Working environment with a possibility of exposure to dioxins, etc.," or "Any works corresponding to these works."**

For these works, use proper respiratory protective devices such as particulate respirators categorized under RS3 or RL3.

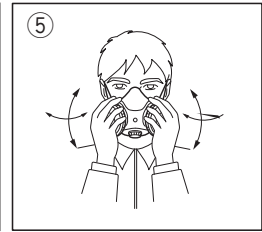
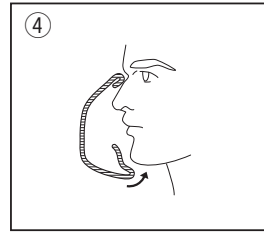
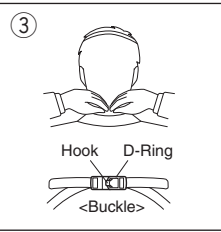
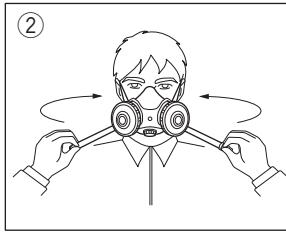
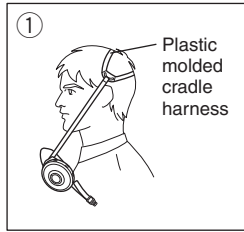


- **Do NOT use the respirator in the high-temperature environment where the respirator itself becomes remarkably hot or in the low-temperature environment where moisture from the exhaled breath becomes frozen.** Deforming of parts or freezing may cause exhalation valve etc. to malfunction, resulting in leakage of toxic substances into the respirator.
- **Make sure that facepiece is well fit on the face.** Check the fit of the facepiece according to the "Performing fit test" (page 2).
- **Airtight cannot be maintained under the following conditions, which may cause hazardous substances to leak into the facepiece. Do NOT use the respirator until improvements are made.**
 - There is beard, sideburns, and/or hair that come 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 the doctor determines that the wearer does not have a fitness to wear a respirator.**
- **If spatters or heavy sparks are generated in such works as gouging, use a dust hood together with a faceshield.** There is a possibility that spatters or sparks leak through the gap between the faceshield and the respirator.
- **When working in a confined space, be careful not to bang the respirator against the wall.** The respirator slipped out of place may cause hazardous substance to leak into the facepiece.

Fitting instructions

Don or doff the respirator in safe place without hazardous substance.

- ① Place the plastic molded cradle harness on the crown of your head.
- ② Hold the buckle (hook and D-ring) and pull them evenly so that the respirator approaches to your face.
- ③ Fasten the buckle on the back of your neck.
- ④ Adjust the length of the headband according to the <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 doff the respirator, remove the buckle.

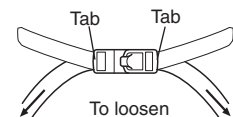
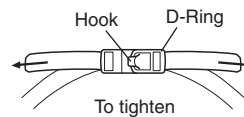


<Adjustment of headband length>

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 the headband length according to the following procedure.

*Make sure that the headband is evenly tightened.

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



CAUTION

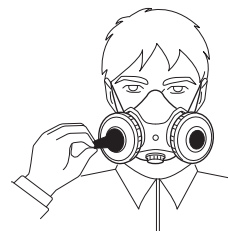
- If the length of the headband is too short or too long, make adjustment following <Adjustment of headband length>.
- Make sure that the headband is well elastic and not over-extended.
- If the headband is over-tightened, feeling of good fit may be lost, and the wearer may experience a feeling of discomfort after working for a long time.
- After adjustment, make sure to perform fit test.

WARNING

- Do NOT wear the respirator on towel applied over face. Particulates may leak into the facepiece.
- Make sure that the left and right sides of the headband are even in length. There is a possibility that over-extended headband and/or longer side of the headband than the other side may be caught up in a machine.
- 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.
- Do NOT apply vibration or excessive force onto the filtering material. It may result in decrease in performance and/or damage to the filtering material.

Performing fit test

Perform fit test in safe place without hazardous substance.



- ① Install fit tester type F (option), composed of two pieces: a lid-shaped piece and a pipe-shaped piece. Insert a lid-shaped piece into an opening on one side, and a pipe-shaped piece into an opening on the other side.
- ② Don the respirator, pinch the end of the pipe-shaped piece 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 various parts of the respirator (mainly exhalation valve), adjust headband, adjust the position of the respirator, etc. and perform ①~③ again.
- ⑤ If good fit is obtained, make sure to remove the fit tester from the respirator before entering into the workplace.

DANGER

- Make sure to perform fit test prior to each use. If not donned properly, hazardous substance may leak through the opening created between face and facepiece, and be inhaled.
- If air leakage into the facepiece is perceived when performing fit test, do NOT use the respirator. Hazardous substance may leak and be inhaled.
- Make sure that the respirator would not be dislocated when removing the fit tester.

Replacement of headband

- Replace the headband in safe place without hazardous substance.
- Make sure to use only the Koken genuine headband.

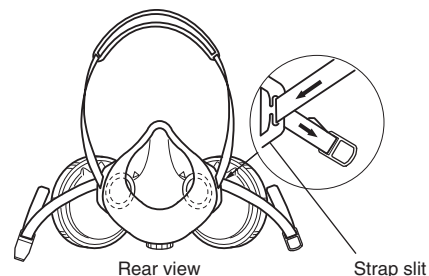
Replacement schedule

Replace the headband with a new one when:

- Remarkable dirt and/or sticky surface due to rubber deterioration is observed on the headband;
- The headband is not fully elastic or it does not have enough strength to hold the respirator;
- Crack, distortion, damage, missing parts, etc. are found on the buckles and/or plastic molded cradle harness; and/or,
- The buckles cannot be securely fastened or cannot be disconnected easily.

Replacement procedure

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



Caution: Be sure with strap direction. Do NOT twist the headband.

Replacement of filtering material (filter)

- Replace filtering material in safe place without hazardous substance.
- Make sure to use only the Koken genuine filtering material.

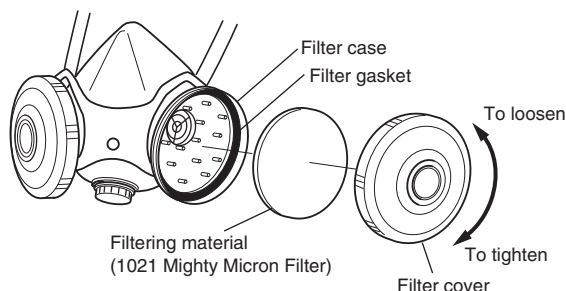
Replacement schedule

Replace the filtering material with a new one when:

- Breathing becomes difficult; and/or,
- Filtering material is damaged, distorted and/or got hole.

Replacement procedure

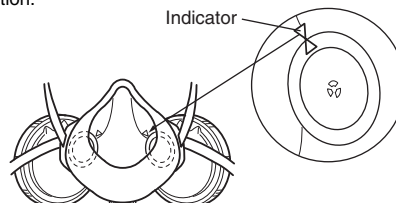
One set (two pieces) of 1021 Mighty Micron Filter, filtering material for replacement, is packaged in each bag. Make sure to replace two pieces of the filtering material simultaneously according to the procedure described on the right.



WARNING

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

- ① Remove the filter cover by turning it counterclockwise.
- ② Remove the used filtering material located inside the filter case. *1
- ③ Make sure that the filter gasket is securely installed in the filter case all the way to the end without misalignment, deformation, etc.
- ④ Place one piece of new filtering material 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 jammed and/or is installed correctly without deformation.
- ⑦ Make sure that the indicators, stamped inside the facepiece, stay at the same position.



- *1 Dispose of the used filtering material in a sealed bag, etc. so that hazardous substances do not diffuse. Clearly indicate that the bag contains "waste plastic." Inform the industrial waste disposal operator that hazardous substances are attached on the used filtering material and ask for proper disposal.
- *2 When 1021KC Welder's Ozone Filter for 1021R (option) or 1021KB Odor Filter for 1021R (option) is used, make sure to install the KC/KB Filter between the filter case and the filtering material.

Replacement of inhalation valve / exhalation valve

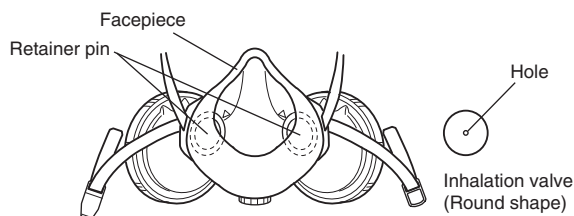
- Replace inhalation valve / exhalation valve in safe place without hazardous substance.
- Make sure to use only the Koken genuine parts.

Replacement schedule

- Replace when damages such as crack, distortion, scar, hole, etc., remarkable dirt and/or sticky surface due to rubber deterioration is observed.

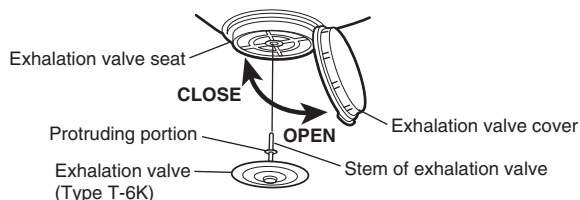
Replacement procedure of inhalation valve

- ① Remove the used inhalation valve from the retainer pin of the valve seat located inside of the respirator.
- ② To place a new inhalation valve in its position, widen the hole located at the center of the new inhalation valve with fingers so that the retainer pin easily goes through the hole. Make sure not to strongly press down the retainer pin and its surroundings.



Replacement procedure of exhalation valve

- ① Open the exhalation valve cover located on the lower side 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.
- ④ With fingers, pinch the stem of the exhalation valve which comes out inside of the facepiece, and pull it until the protruding portion on the stem comes out.
- ⑤ Make sure that the exhalation valve is not turned inwardly and completely close the exhalation valve cover.



WARNING

- Make sure that the exhalation valve seat is not get scarred. There is a possibility that hazardous substance may leak inside the facepiece.

Optional accessories and usage

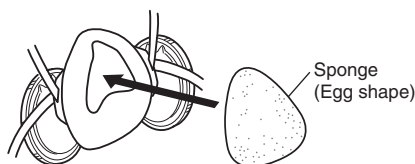
- Install or replace the optional accessories in safe place without hazardous substance.
- Make sure to use only the Koken genuine parts.

● 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.



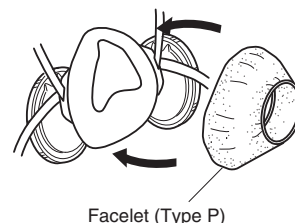
● Facelet (Type P)

Use facelet to avoid skin irritation due to sweat.

How to use

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

*Make sure that the facepiece would not get deformed.



WARNING

- Use the facelet only when there is a possibility that 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.
- Do NOT use the facelet when wearing a respirator in asbestos-handling works or in the works where highly hazardous particulates, such as arsenic, chrome, etc., generate. (Facelet should not be used even when sufficient airtight is obtained).

Inspection procedure

Perform in safe place without hazardous substance.

| Check points | Criteria | Troubleshooting |
|---|--|--|
| Facepiece | No damages such as crack, distortion, and hole, 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 foreign object attached are found. |
| Strap slit Filter case | No damages such as crack, distortion, and hole, and no remarkable dirt are found. Filtering material can be firmly installed. | |
| Exhalation valve Inhalation valve Filter gasket | No damages such as crack, distortion, scar, and hole and no sticky surface due to rubber deterioration are found. There is no adherence of remarkable dirt and/or foreign objects. | Replace the exhalation valve, inhalation valve and/or filter gasket with a new one. Clean the parts if remarkable dirt and/or foreign object attached are found. |
| Filter cover Exhalation valve cover Exhalation valve seat | No damages such as crack, distortion, and scar are found. There is no adherence of remarkable dirt and/or foreign objects. | Replace the filter cover, exhalation valve cover and/or exhalation valve seat with a new one. Clean the parts if remarkable dirt and/or foreign object attached are found. |
| Headband | Straps | Fully elastic. It keeps necessary strength to hold the respirator. |
| | Buckles, Plastic molded cradle harness | No cracks and/or no distortions are found. Buckles can be disconnected at ease and can be securely fastened. |
| Filtering material | External appearance | No damages such as distortion and hole, no remarkable dirt and/or no excessive moisture are found. |
| | Inhalation resistance | Breathing is not difficult when donning the respirator. |
| Overall conditions after all parts are assembled. | There are no missing parts. There are no gaps created at connecting parts. Filtering material is correctly installed in the filter case. | Install missing parts. |

*For cleaning, refer to "Cleaning after use."

Specifications

| | Internal standard | Average |
|--|------------------------------------|----------------------------|
| Filtering efficiency (Test particulate: DOP) | 95.0% or more | 98.0% |
| Inhalation resistance | 80Pa or less | 51Pa |
| Exhalation resistance | 52Pa or less | 29Pa |
| Increased value of inhalation resistance | - | 87Pa |
| Increased value of carbon dioxide concentration / Dead space | 0.7% (280cm ³) or less | 0.56% / 224cm ³ |
| Weight | 160g or less | 149g |

The values above represent the performance level with the use of standard facepiece 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/set per bag)
- Inhalation valve -----Inhalation Valve Round Shape (Black) (5pcs per bag)
- Exhalation valve -----Exhalation Valve Type T-6K (5pcs per bag)
- Exhalation valve cover -----Exhalation Valve Cover Type T-6 (5pcs per bag)
- Exhalation valve seat -----Exhalation Valve Seat for T-6 (5pcs per bag)
- Headband -----Headband Type RB (5pcs per bag)
- Sponge -----Sponge Egg Shape (50pcs per package)
- Facelet -----Facelet Type P (5pcs per bag)
- Filter gasket -----Filter Gasket Type 1021-II (10pcs per bag)
- Filter cover -----Filter Cover Type 1021-II (10pcs per bag)

Optional parts (sold separately)

- Fit tester for ensuring the fitness between respirator and face -----Fit Tester Type F (1set)
- Auxiliary filter to remove ozone odor -----1021KC Welder's Ozone Filter for 1021R (5pcs per bag)
- Auxiliary filter to remove mercaptan odor -----1021KB Odor Filter for 1021R (5pcs per bag)

Maintenance and storage

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

1. Cleaning after use

Perform cleaning in safe place without hazardous substance.

WARNING

- Do NOT remodel or disassemble the parts that are not replaceable.
- Do NOT use parts that are not Koken genuine when replacing parts.

● Filtering material

DANGER

- Do NOT perform maintenance on the used filtering material. Put the used filtering material in a sealed bag so that captured particulates would not diffuse and dispose of it in a proper way.

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 use a vacuum cleaner to suck captured particulates attached on the filtering material.
 - Do NOT wash the filtering material in water.

WARNING

- Do NOT reuse the filtering material that was already 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 out attached particulates and dirt such as sweat with dry and slightly wet cloth. Be sure not to damage the respirator.
- Wash out remarkable dirt with mild neutral detergent diluted with warm water. Be careful when handling especially on the exhalation valve seat and the exhalation valve. Then rinse off neutral detergent by rinsing completely.
- Wipe out residual water after cleaning and dry it in the shade.
- Disinfect the face-contacting area and inside of the facepiece by wiping it with alcohol-soaked cloth. Then wipe the alcohol out completely.

CAUTION

- Always keep the face-contacting area clean.
Dirt attached on the face-contacting 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.
- Do NOT use organic solvents, such as thinner, for maintenance.

2. Storage

● Place for storage

After cleaning, store the respirator in a dry place without heavy temperature fluctuations and/or high humidity. Do NOT pile up the cleaned respirators, as the facepiece, headband, etc. could be cracked and/or distorted. Avoid a direct sunlight for storage. Prepare an exclusive storage place so that the storage condition can be checked at ease.



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