

III. MOLDEX 7000/7800 SERIES RESPIRATOR USER INSTRUCTIONS AND WARNINGS

(Also see instruction manuals included with each respirator and located in back binder pocket)

A. APPLICATIONS

1. USE AGAINST:

- a. Contaminants specified on NIOSH approval label, matrix, cartridges or filters and in accordance with all limitations and applicable safety and health regulations, including OSHA.
- b. Contaminants with good warning properties, i.e. smell, taste or irritation.

2. DO NOT USE AGAINST:

- a. Concentrations of contaminants which are unknown, or are immediately dangerous to life or health.
- b. Concentrations of contaminants which exceed the maximum use concentration or 10X the OSHA Permissible Exposure Limit (PEL), whichever is lower, or according to applicable government regulations for half mask respirators. For the 9000, when qualitatively fit tested, or 50X the PEL when quantitatively fit tested, or according to applicable government regulations.
- c. Gases or vapors with poor warning properties or those which generate high heats of reaction or paint sprays containing isocyanates.
- d. Sandblasting.
- e. Oil-based mists with N filters.

3. WARNING TO USER:

- a. Follow all instructions and warnings on the use of these respirators and wear during all times of exposure. Failure to do so will reduce respirator effectiveness, wearer protection, and **may result in sickness or death.**
- b. For proper use, ask your supervisor or call +1 (800) 421-0688 or +1 (310) 837-6500, ext. 512/550 or email tech@moldex.com.

- c. The user must first be trained by the employer in proper respirator use, in accordance with applicable safety and health standards, for the contaminant and exposure level in the assigned work area. A written Respiratory Training Program must be in place and followed by each user before first use. It must meet all requirements of all applicable standards, including OSHA 29 CFR 1910.134, and in Canada Z 94.4, e.g. training, fit testing, medical evaluation, and applicable OSHA substance specific standards.
- d. The vapors, gases, dusts, mists, fumes, and other contaminants which can be dangerous to your health include those which you cannot see, taste, or smell.
- e. Check with your supervisor for the appropriate cartridges and/or filters for the contaminants in your work area.
- f. A qualitative or quantitative fit test for half mask respirators must be performed before a respirator is assigned. For the 9000, a qualitative fit test for up to 10X PEL, or quantitative fit test, for up to 50X PEL, must be performed before a respirator is assigned. Refer to current OSHA 29 CFR 1910.134 (f).
- g. This respirator, when combined with the appropriate filter, offers nuisance level relief from organic vapors and acid gases that are below the Permissible Exposure Limit (PEL). Nuisance level refers to concentrations not exceeding the OSHA PEL or other government occupational exposure limits, whichever is lower.

4. RESTRICTIONS:

- a. This respirator does not supply oxygen and must not be used in atmospheres containing less than 19.5% oxygen.
- b. Do not remain in contaminated area if any physical distress occurs, for example breathing difficulty, dizziness or nausea.
- c. Leave contaminated area and replace respirator and/or cartridge or filter if it is damaged, distorted, a proper fit cannot be obtained, you taste, smell or become irritated by contaminants, or breathing becomes difficult.
- d. Do not alter, modify, or abuse this respirator.
- e. Store respirator in sealed bag in a clean, dry, non-contaminated area.
- f. Dispose of facepiece, and/or cartridges and disks/filters according to your employer's policy and local regulations.
- g. N, R or P filters are required for particulates.

- h. **Where oil mists are present**, either alone or in combination with solid particulates, do not use the R or P filters for longer than one eight-hour work shift. Dispose no later than eight hours after first use. Do not exceed 10X PEL (50x the PEL for the 9000 when it has been quantitatively fit tested.) or a total of 200 mg loading per respirator, whichever is lower. It is the user's responsibility to know the PEL and concentration of the contaminant, the maximum work rate of the employee, and any other work site-specific information to calculate the loading of the filter. Where oil mists are present do not use N filters.
- i. Where NO oil mists are present, dispose of all cartridges and N, R, and P filters no later than 30 days after first use, and/or removing from sealed package, whichever occurs first.
- j. Use cartridges, filters, and facepieces before the "use by" expiration date printed on box or bag.
- k. If used for welding, wear appropriate eye and face protection.

5. NIOSH Cautions And Limitations:

The following restrictions may apply. See NIOSH Approval Label.

- A. Not for use in atmospheres containing less than 19.5% oxygen.
- B. Not for use in atmospheres immediately dangerous to life or health.
- C. Do not exceed maximum use concentrations established by regulatory standards.
- H. Follow established cartridge change schedules to ensure that cartridges are replaced before breakthrough occurs.
- J. Failure to properly use and maintain this product could result in injury or death.
- L. Follow the manufacturer's User's Instructions for changing cartridges, and/or filters.
- M. All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
- N. Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O. Refer to User's Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- P. NIOSH does not evaluate respirators for use as surgical masks.

- S. Special or critical user's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

B. PRE-INSPECTION

Inspect your respirator before and after wearing. Do not wear, and return to your supervisor if:

1. Head harness is torn, cut, or damaged in any way, or if head straps are torn, cut, or have lost elasticity.
2. Buckles or head cradle are missing, damaged or broken.
3. Facepiece is cracked, torn, distorted, dirty, or has holes.
4. Inhalation/Exhalation diaphragms and/or gaskets are missing, torn, damaged, or not properly seated.
5. Cartridges are at the end of their service life, cracked, damaged, or not properly seated.
6. Any other plastic or rubber part is cracked, distorted, or damaged.

C. APPROVALS

1. Review NIOSH labels on appropriate approval matrix.

D. FIT TEST POLICY / FITTING INSTRUCTIONS

A qualitative or quantitative fit test must be performed before a respirator is assigned. Refer to current OSHA and/or NIOSH regulations, current ANSI Standards, and all other applicable regulations for complete details.

Qualitative fit testing can be performed using **BITTER** with appropriate cartridges or filters. Quantitative fit testing can be performed with cartridges fitted with probes. (This will be covered in Chapters X & XI.)

1. Users must follow instructions each time respirator is worn.
2. OSHA regulations 29 CFR 1910.134 (f) requires that the user be fit tested.
3. If you cannot obtain a proper fit, do not enter the contaminated area and see your supervisor.
4. Fit testing ensures that a respirator fits each individual wearer and is not the same as a user seal check.
5. A new fit test must be conducted any time the user changes respirator models or sizes. Also see OSHA 29CFR 1910.134.

6. See appropriate Chapter (VI, VII or VIII as appropriate) and 7000/7800/8000/9000 Instruction Manual for proper fitting instructions.
7. The test subject must be clean-shaven. Do not test a subject with a beard or other facial hair, which prevents contact between the face and the seal of the respirator.

E. CARTRIDGES

1. CHEMICAL CARTRIDGE SERVICE LIFE

Leave contaminated area, and replace cartridges, if you smell, taste, or feel any irritation, in your nose or throat. Consult your supervisor. Replace according to your changeout schedule per OSHA 1910.134, or no more than eight hours after first use, or sooner if breakthrough occurs. Dispose of all cartridges no later than thirty days after first use.

F. CHANGE OUT SCHEDULES

OSHA 1910.134 (d) requires that the employer implement a change out schedule for cartridges based on objective information or data that will ensure cartridges are changed before the end of their service life (see OSHA 1910.134 for complete text). A cartridge's useful service life is how long it provides adequate protection from harmful chemicals in the air. The service life of a cartridge depends on many factors, including environmental conditions, breathing rate, cartridge filtering capacity and the amount of contaminants in the air.

If you know what the chemical is and how much of it you are exposed to, then you are ready to estimate how long your respirator cartridges will work and apply the safety factor.

You must use some type of objective data to develop a change out schedule. Options for determining a cartridge's service life include:

1. Conducting experimental tests.
2. Using a mathematical model <https://www.osha.gov/SLTC/etools/respiratory/index.html>

OSHA has on its website other means of calculating breakthrough times for various chemicals. You may also wish to consider use of this website in developing your change out schedules. Be advised that actual service life can vary considerably from those calculated using these methods. These methods only provide rough estimates. Some of the data you will need specific to the Moldex cartridges in order to use the models on the OSHA website are:

- #7100 has an adsorbing equivalent of 42.5 grams Organic Vapor Carbon, its height is 2.18 cm, inside diameter is 7.78 cm.
- #7600 has an adsorbing equivalent of 36.0 grams Organic Vapor Carbon, it's height is 2.18 cm, inside diameter is 7.78 cm.
- A change out schedule worksheet is provided.

CARTRIDGE DETAILS

READ THIS WARNING

These weights were estimated by Assay Technologies using methods based on their tests. It is suggested that you use default values provided by OSHA for the other cartridge specific parameters. Lastly, in order for the OSHA models to be used you may have to provide other pertinent data on the challenge agent which may be found on the SDS or from the chemical manufacturer. These methods can be found at:

http://www.osha.gov/SLTC/etools/respiratory/change_schedule.html.

They are called "Respirator Change Schedules." Moldex suggests that you use the OSHA methods, or other means provided by OSHA. Moldex always recommends that you utilize the most conservative (shortest) breakthrough times. Moldex recommends that you use any of the methods only for the contaminants contained in the Moldex Chemical Selection Guide. For more detailed information on these methods, refer to OSHA's website at:
https://www.osha.gov/SLTC/etools/respiratory/advisor_genius_nrnl/work_categories.html
https://www.osha.gov/SLTC/etools/respiratory/change_schedule_mathmodel.html

For more information on NIOSH multi-vapor prtrrogram, refer to website at:

<http://www.cdc.gov/niosh/npptl/multivapor/multivapor.html>

If you have any questions please feel free to call Moldex Technical Services at +1 (800) 421-0668 or +1 (310) 837-6500, ext. 512/550.

CARTRIDGE CHANGE OUT SCHEDULE WORKSHEET

Duties / Job Classification: _____

Location: _____

CHEMICAL INFORMATION (FROM MSDS OR MANUFACTURER)

Chemical: _____

Exposure Limit: _____

Maximum Concentration: _____

Boiling Point: _____

Molecular Weight: _____

Liquid Density: _____

Vapor Pressure: _____

Molecular Polarization: _____

Refractive Index: _____

WORKSITE CONDITIONS

Maximum Expected Temperature (°C): _____

Expected Relative Humidity (%)*: _____

Work Rate: _____

Number of Shifts/Week: _____

Hours Cartridge Used/Shift: _____

DATA FOR #7100 AND #7600 CARTRIDGES

of Cartridges: 2

#7100 Adsorbing Equivalent (grams): 42.5

#7100 & #7600 Cartridge Bed Height (cm): 2.18

#7600 Adsorbing Equivalent (grams): 36.0

#7100 & #7600 Bed Diameter (cm): 7.78

Service Life Estimate: _____

Basis Used: _____

Cartridge Change Out Schedule Every: _____

Hours: _____

After Each Shift: _____

Other: _____

This form may be used to assist you in developing a change out schedule when using #7100 or #7600 cartridges for protection against organic vapors. Be advised, this is simply a tool to help you collect some of the pertinent data in developing a change out schedule. It is your responsibility to ensure the accuracy of the schedules that you develop for each operation and work site.

*Moldex suggests that you use a range and use the lowest predicted breakthrough.

7000/7800 SERIES

1. CARTRIDGE/FILTER DISK ASSEMBLY

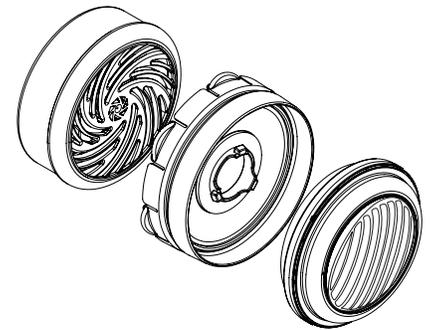
First inspect the facepiece to cartridge or filter disk sealing surfaces to make sure it's clean and undamaged. Only use cartridges or filter disks from sealed bags. To attach the cartridge or filter disk to the facepiece, align the three cartridge or filter disk notches with the three bayonets protruding from the facepiece and firmly turn clockwise until the cartridge or filter disk is locked into position and is unable to turn any further. Check to see that it is seated and flush against the facepiece. Then check the inhalation diaphragms for dirt or damage and see that they are seated properly.



FILTER DISKS

1. FILTER DISK WITH PIGGYBACK ADAPTER/CARTRIDGE ASSEMBLY

Before assembling filter disk #7940 to the piggyback adapter #7920, inspect the sealing surface, to make sure it is clean and undamaged and the gasket is in place. Push the piggyback adapter onto the cartridge until it snaps into place all around the cartridge. To attach the cartridge to the facepiece, align the three cartridge notches with the three bayonets protruding from the facepiece and firmly turn clockwise until the cartridge is locked into position and is unable to turn any further. Check to see that it is seated properly, both on the inside and outside and flush against the facepiece. Inspect the piggyback adapter, sealing ring and gasket each time the filter disk is changed. If seal gasket is broken, cracked or damaged replace gasket or entire piggyback adapter. Insert filter disk into the piggyback adapter and turn clockwise until the filter disk is locked into position and is unable to turn any further and until both surfaces are tightly sealed together at all points. Check the inhalation diaphragms for dirt or damage and see that they are properly seated.



Warning: Only use #7920 piggyback adapter with the #7940 filter disks. **Failure to do so may result in sickness or death.**

2. FILTER DISK SPLASH/SPARK PROTECTION

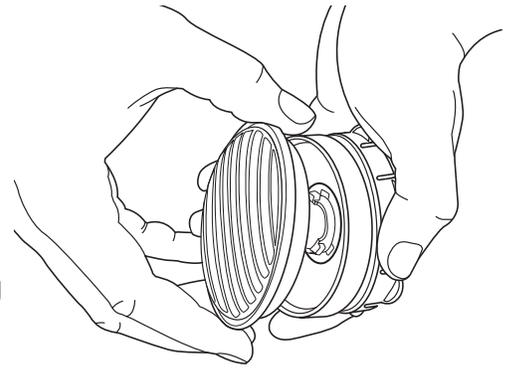
#7999 Filter Disk Cover can be used with #7940, #7950 and #7960 filter disks. Push #7999 over filter disk until it snaps into place.

3. FILTER AND DISK SERVICE LIFE

Leave contaminated area and replace filters, disks or cartridges, if they become damaged, soiled, torn, or if you experience increased breathing resistance.

4. FILTER/DISK REPLACEMENT

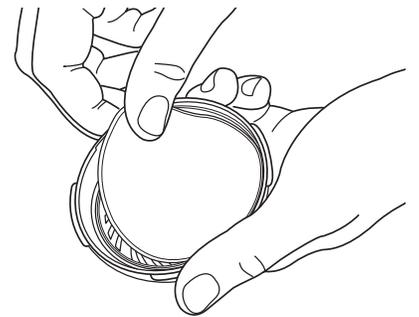
To remove the used #7940 filter disk, gently turn the filter disk counter clockwise and then remove it from the #7920 piggyback adapter. Discard used filter disk. Then gently pull off the piggyback adapter. Inspect and clean the piggyback adapter each time the filter disk is changed. If seal gasket is worn, cracked or damaged, then replace gasket. If the piggyback adapter or sealing ring is worn or damaged, then entire adapter must be replaced. To remove the cartridge or filter disk, gently turn counter clockwise and remove from facepiece. Before replacing with a new cartridge or filter disk, inspect the facepiece to cartridge sealing surface, to make sure it is clean and undamaged. Only use replacement cartridges/filter disks from sealed bags.



FILTERS

1. FILTER ASSEMBLY

Before assembling cartridges, inspect the facepiece sealing surface to make sure it is clean and undamaged. To attach the cartridge to the facepiece, align the three cartridge notches with the three bayonets protruding from the facepiece and firmly turn clockwise until the cartridge is locked into position and is unable to turn any further. Check to see that it is seated properly, both on the inside and outside and flush against the facepiece. Insert filter into the #7020 retainer so that the side indicated is away from face. Check to see that filters are properly seated then push the retainer onto the cartridge until it snaps into place. Check the inhalation and exhalation diaphragms for dirt or damage and see that they are properly seated.



2. FILTER REPLACEMENT

To remove the old filter, gently pull off the filter retainer. Remove the old filter and place a new filter inside the retainer so that the side indicated is away from face. Inspect cartridge lid to be sure it is clean and undamaged. Replace the retainer.

Warning: Use the #7020 filter holder retainer with the #8910 or #8970 filters only. **Failure to do so may result in sickness or death.**

MAINTENANCE FOR 7000/7800 SERIES

1. FACEPIECE SERVICE LIFE

The effective life of the facepiece will be influenced by the use conditions and contaminants to which it is exposed. This includes concentration of the contaminants (e.g. ketones and aromatic solvents will increase the rate of deterioration), duration of exposure, ambient temperature, etc. Do not use solvents to wipe or clean the facepiece as these will reduce the life of the respirator and pose a health hazard to the user. If the material shows any signs of cracking, wrinkling, or aging, then discard the facepiece immediately. Do not expose to high ambient temperatures (above 160° F) as this will distort the facepiece, and may affect fit.

2. REPLACEMENT PARTS

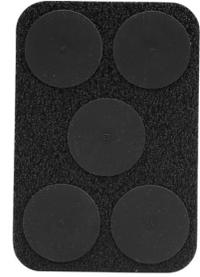
Use only Moldex replacement parts for Moldex respirators.



#0072 - Head Strap Assembly



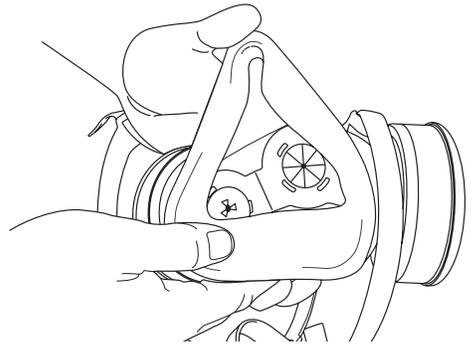
#0074 - Gaskets



#0073 - Diaphragms

3. INHALATION & EXHALATION DIAPHRAGMS INSPECTION/CLEANING

Remove all three diaphragms to inspect. Two inhale diaphragms are located inside the facepiece and the exhale diaphragm is located under the valve cover. Open the valve cover by pulling up on the latch then remove the diaphragm. Clean and check the diaphragms for dirt, leaks, distortion, or any other damage. After washing and/or inspection, replace all three diaphragms and check to see that they are properly seated.



4. CLEANING FACEPIECE

Cleaning is recommended after each day's use or more frequently if necessary. Remove all filters, cartridges, inhalation & exhalation diaphragms from the facepiece. Push down and rotate counter clockwise the valve cover/head harness assembly including the straps and buckles to remove it from the mask completely. Wash facepiece in warm soapy water, rinse with clean water and air dry. **Do not clean with solvents or expose to high temperatures.** Inspect components, then reassemble and replace the exhalation diaphragm last. Replace entire respirator if worn, damaged or deformed.