

Operating Manual
G1 Constant Flow Airline Respirator



Order No.: 10250099/00
Print Spec: 10000005389 (F)
CR: 800000068538

⚠ WARNING!

These instructions must be provided to users before use of the product and retained for ready reference by the user. Read this manual carefully before using or maintaining the device. The device will perform as designed only if it is used and maintained in accordance with the manufacturer's instructions. Otherwise, it could fail to perform as designed, and persons who rely on this device could sustain serious injury or death.

The warranties made by MSA with respect to the product are voided if the product is not installed and used in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions.

Please read and observe the WARNINGS and CAUTIONS inside. For additional information relative to use or repair, call 1-800-MSA-2222 during regular working hours.

MSA is a registered trademark of MSA Technology, LLC in the US, Europe and other Countries. For all other trademarks visit <https://us.msasafety.com/Trademarks>.



The Safety Company

1000 Cranberry Woods Drive
Cranberry Township, PA 16066
USA
Phone 1-800-MSA-2222
Fax 1-800-967-0398

For your local MSA contacts, please go to our website www.MSAsafety.com

Contents

1	Safety Regulations	4
1.1	NIOSH Approval Information	4
1.2	Important Notice for Respiratory Protection Program Administrators	5
1.3	Reference	5
1.4	Contact Information	5
2	Description	5
2.1	Operating Principles	5
2.2	Facepiece	6
2.3	Air Flow Control Valve	6
2.4	Breathing Tube Adapter	7
2.5	G1 Spectacle Kit	7
3	Preparing for Use	7
3.1	Size Selection	7
3.2	Respirator Fit Test	8
4	Visual Inspection	8
4.1	All Components	8
4.2	Facepiece	9
4.3	Breathing Tube Adapter	9
4.4	Breathing Tube	9
4.5	Air Flow Control Valve	9
4.6	Air Supply Hoses	9
4.7	Record Keeping	9
5	Assembly	9
5.1	General Instructions	9
5.2	Assembling the Respirator	10
5.3	Installing Spectacle Kit	10
6	Functional Tests	12
7	Air Supply	12
7.1	Air Source	12
7.2	Inlet Pressure Gauge Assembly	13
7.3	Air Supply Hose	13
7.4	Interconnecting Air Supply Hoses	14
7.5	Quick-Disconnects	15
8	Before Use	17
8.1	Donning the Apparatus	17
8.2	Donning the Facepiece	17
8.3	Testing the Negative Pressure Seal	18
9	Using the Respirator	19
9.1	Cold Weather Operation	20
10	After Use	20
10.1	Doffing the Facepiece	20
10.2	Doffing the Apparatus	21
11	Cleaning and Disinfecting	21
11.1	Facepiece	22
11.2	Breathing Tube	22
11.3	Breathing Tube Adapter	23
11.4	Other Components	24
12	Storage	24
13	Flow Test	24
14	Retiring the Respirator	24

1 Safety Regulations

This respirator complies with the National Institute of Occupational Safety and Health (NIOSH) regulation under 42 CFR Part 84.

NIOSH Phone: 1-800-CDC-4636

1.1 NIOSH Approval Information

WARNING!

Read and obey all NIOSH approval limitations.

Failure to follow this warning can result in serious personal injury or death.

Cautions and Limitations

A- Not for use in atmospheres containing less than 19.5 percent oxygen.

B- Not for use in atmospheres immediately dangerous to life or health.

C- Do not exceed maximum use concentrations established by regulatory standards.

D- Air-line respirators can be used only when the respirators are supplied with respirable air meeting the requirements of CGA G-7.1 Quality Verification Level (Grade) D or higher quality.

E- Use only the pressure ranges and hose lengths specified in the User's Instructions.

J- Failure to properly use and maintain this product could result in injury or death.

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.

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

S- Special User Instructions

1. Respirator must be supplied with respirable air.
2. Use only the hose length and air pressure range specified in these instructions.
3. User must wear suitable protective clothing and precautions must be taken so that the respirator is not worn in atmospheres that may be harmful to the device.
4. DO NOT alter, modify, or substitute any components without the approval of MSA. Such alterations may void the NIOSH approval of the respirator.
5. Inspect the respirator regularly and maintain it according to the instructions. Repairs must only be made by properly trained personnel.
6. Leave area immediately if:
 - a. Breathing becomes difficult
 - b. Dizziness or other distress occurs
 - c. You taste or smell contaminants
7. Thoroughly inspect respirator upon receipt and prior to use.
8. Respirator will perform as designed only if used and maintained according to these instructions.
9. NIOSH approval information is included as a supplement (P/N 10087846) to these instructions.

1.2 Important Notice for Respiratory Protection Program Administrators

1. Before occupational use of this respirator, a written respiratory protection program must be implemented meeting all the local government requirements. In the United States, employer must comply with OSHA 29 CFR 1910.134 which includes medical evaluation, training, and fit testing.
2. An adequate respiratory protection program must include knowledge of hazards, hazard assessment, selection of proper respiratory protective equipment instruction and training in the use of equipment, inspection and maintenance of equipment, and medical surveillance. [See OSHA regulations, Title 29 CFR, Part 1910.134].
3. This respirator may be used only after proper instruction and training in its use as specified in OSHA regulations Title 29 CFR, Part 1910.134.
4. Do not mark the respirator, i.e., with stamps, labels, paint, or other method. Use of such markings may interfere with apparatus use or may constitute a flammability hazard.
5. Be sure that other equipment does not interfere with the respirator facial seal, the user's ability to operate the respirator, or other necessary means of mobility.

1.3 Reference

For more information on the respirator use and performance standards, consult the following publications:

- ANSI Z88.2 latest edition, Practices for Respiratory Protection. American National Standards Institute, <https://webstore.ansi.org/Info/Sdolist>
- CAN/CSA-Z94.4 latest edition, Selection, Use, and Care of Respirators. CSA Group, <https://store.csagroup.org/>
- ISO 2230 latest edition, Rubber Products - Guidelines for Storage. International Organization for Standardization, <https://www.iso.org/store.html>
- NFPA 1500 latest edition, Standard on Fire Department Occupational Safety and Health Program, National Fire Protection Association, <https://www.nfpa.org/Codes-and-Standards>
- Title 29 CFR Part 1910, Occupational Safety and Health Standards, <https://www.osha.gov/law-regs.html>
- Title 29 CFR Part 1910.134, Respiratory Protection Standard, <https://www.osha.gov.law-regs.html>

1.4 Contact Information

In the event of a product concern, contact your local MSA authorized repair center or distributor, who will provide the necessary information to MSA for issue resolution. To report any serious concerns or to inquire about the products use the following contact information:

MSA North America Corporate Center

1000 Cranberry Woods Drive
Cranberry Township, PA 16066
Phone 1-800-MSA-2222
Fax 1-800-967-0398

2 Description

2.1 Operating Principles

The Constant Flow Airline Respirator is a Type C, supplied-air respirator approved by NIOSH for use in atmospheres not immediately dangerous to life or health (non-IDLH). The respirator supplies a continuous flow of respirable air to the Facepiece from an external source.

The respirator is suitable for use with a large, compressed air cylinder of breathable air or a bank of cylinders set up in cascade fashion. Alternatively, the respirator can be used with a compressor system designed and configured to supply respirable breathing air to the respirator, within the NIOSH approved pressure range. In normal use, the Constant Flow Airline Respirator is connected to an air supply of a type and duration selected by the user and will provide respiratory protection as long as the user remains connected to the air supply. The respirator allows the wearer to work within the limits of the approved air-supply hose.

2 Description

The Constant Flow Airline Respirator consists of 6 main components:

- Facepiece
- Air Flow Control Valve
- Breathing Tube Adapter
- Breathing Tube
- Support Belt
- Air Supply Hose

The respirator is also offered with the following optional component:

- G1 Spectacle Kit

2.2 Facepiece



The facepiece and nose cup are available in three sizes (small, medium, and large). The facepiece includes a large lens to optimize field of view and a mechanical speech diaphragm to enhance speech communication. The facepiece includes a broad range of head harness designs and material options.

2.3 Air Flow Control Valve



Two control valves are approved for use with the Constant Flow Airline Respirator:

- Low Pressure Control Valve – requires inlet pressure of 10-15 psig
- High Pressure Control Valve – requires inlet pressure of 35-40 psig

The control valve includes a thumbwheel that allows the user to adjust the volume of air delivered to facepiece within NIOSH required flow rates.

2.4 Breathing Tube Adapter



The breathing tube adapter is needed to attach the breathing tube to the facepiece. The adapter connects to the facepiece with a push-to-connect connection, and disconnects from the facepiece with a release button.

2.5 G1 Spectacle Kit

⚠ WARNING!

- DO NOT wear eyeglasses under the facepiece. The temples or sidebars on eyeglasses will prevent an air-tight seal. If you must wear glasses, install the spectacle kit.
- Before using a spectacle kit, an optometrist must prescribe the correct lenses to fit into the lens frame on the spectacle kit.

Failure to follow these warnings can result in serious personal injury or death.



The G1 Spectacle Kit allows users to mount eyeglasses inside the facepiece. Individuals who wear eyeglasses must use the G1 Spectacle Kit to guarantee a correct fit. Eyeglasses cannot be worn under the facepiece without the G1 Spectacle Kit.

3 Preparing for Use

3.1 Size Selection

Regardless of facial dimensions and respirator sizing charts, a respirator fit test, either qualitative or quantitative, must be performed to ensure the correct respirator size selection.

1. Fit test the respirator size relative to your facial features and dimensions. The safety administrator or program manager might assist in selecting the initial size to try.
2. Carefully don the facepiece. Refer to [8.2 Donning the Facepiece](#) for instructions.
3. Perform a negative pressure seal test. Refer to [8.3 Testing the Negative Pressure Seal](#) for instructions.
4. If the facepiece does not pass the negative pressure seal test or feels uncomfortable, try the next nearest size relative to your face.

4 Visual Inspection

Passing the negative pressure seal test does not verify the size is correct. The size selected must be verified by successfully passing a respirator fit test, either qualitative or quantitative. If the respirator passes a negative pressure seal test but DOES NOT pass a respirator fit test, try the next nearest size.

Once the proper size is selected, the respirator must pass a negative pressure seal test every time the facepiece is donned to ensure fit before using the respirator.

If facepiece leaks from somewhere other than the facial seal, find and correct the condition, then repeat the test.

3.2 Respirator Fit Test

WARNING!

- Each wearer of this respirator must perform routine quantitative or qualitative respirator fit tests.
- Obey all specified warnings and limitations.

Failure to follow these warnings can result in serious personal injury or death.

A qualitative or quantitative respirator fit test must be carried out routinely for each wearer of this respirator to determine or confirm the amount of protection that the respirator provides. A fit test should also be performed after repairs or maintenance.

Quantitative Test

If a quantitative fit test is used, a fit factor of at least 500, based on ambient aerosol fit test methods of equivalent, is required before any type of respirator is assigned to an individual.

Qualitative Test

If a qualitative fit test is used, only validated protocols are acceptable. The individual must pass a test designed to assess a fit factor of at least 500.

A Quik Chek Kit (P/N 805078) can be used to perform fit testing.

Refer to ANSI Z88.2 latest version, Practices for Respiratory Protection, and Title 1910.134, Respiratory Protection Standard, for additional information about respirator fit tests.

4 Visual Inspection

WARNING!

- If the respirator exhibits any of the conditions listed in this section, or if the respirator does not function properly for all tests as described in this section, the respirator must be removed from service and the condition must be checked and corrected by an MSA trained and certified repairperson before using.
- DO NOT inspect the respirator before cleaning if there is danger of contacting hazardous contaminants. Clean and disinfect first, then inspect.

Failure to follow these warnings can result in serious personal injury or death.

Conduct visual inspections upon receipt, daily, and after each use.

Inspect the entire apparatus after it is cleaned and disinfected. ASTM F3387 and OSHA 19 CFR 1019.134, describe the levels of inspection procedures which are to be performed. Refer to these documents or to an inspection program prepared by a health professional in establishing an inspection program.

If there is no MSA Service Center in your area, return the unit to MSA for service. Call 1-800-MSA-2222 for instructions.

4.1 All Components

1. Examine all components for deterioration, dirt, cracks, debris, tears, holes, stickiness, heat- or chemical-related damage, or other signs of damage.
2. Make sure that the respirator is complete and assembled correctly. Refer to [5 Assembly](#) for instructions.
3. Perform the following component-specific inspections.

4.2 Facepiece

1. Examine the lens for cracks, scratches, deformation, or color changes.
2. Check that the facepiece rubber has a tight seal and is attached to the lens ring tightly.
3. Check that the exhalation valve is clean and operates easily. Make sure that the valve moves off the seat and returns when released (from inside the facepiece).
4. Examine the facepiece inlet for damage. Make sure that the inhalation valve is in position.
5. Examine the nosecup to make sure that the check valves or air guides are in position. Make sure that the nosecup is attached to the component housing tightly.
6. Examine the nosecup, inhalation port, inhalation valves, exhalation valves, and exhalation port for dust, Kevlar fibers, and other debris.
7. Check that the straps for the head harness are not torn, cut, worn, fraying, or missing buckles.

4.3 Breathing Tube Adapter

1. Examine the adapter for cracks, scratches, deformation, or color changes.
2. Examine the adapter gasket (green), O-ring, and seal ring for wear or damage.
3. Remove the adapter cover to examine the exhalation valve. Make sure that the valve moves off the seat and returns when released.
4. Examine the Rd40 threads for damage.

4.4 Breathing Tube

1. Inspect the breathing tube for cracks, tears, and dirt.
2. Inspect the threaded connectors for cracks, dirt, distortion, and thread damage. Inspect the gasket for cracks, tears, dirt, and distortion.

4.5 Air Flow Control Valve

1. Inspect the air flow control valve and fittings for damage. Ensure thumbwheel moves freely.

4.6 Air Supply Hoses

1. Inspect the air supply hoses for signs of cuts, tears, voids, abrasion, tackiness, brittleness, or signs of heat or chemical-related damage.
2. Inspect the end fittings and ferrules for signs of cuts, voids, abrasion, cracks, splitting, oxidation, signs of heat, or chemical-related damage.

4.7 Record Keeping

Following inspection, the date and initials of the designated inspector should be recorded on an inspection tag. A more detailed record of the operations performed can be noted on an inspection and maintenance log, available from MSA.

When the inspection data has been recorded, the respirator is ready for use.

5 Assembly

5.1 General Instructions

WARNING!

- Ensure respirator connections are leak tight before entering a toxic atmosphere.
- Never substitute, modify, add, or omit parts.
- Use only exact replacement parts in the configuration as specified by the manufacturer.

Failure to follow these warnings can result in serious personal injury or death.

5 Assembly

The respirator can be assembled with standard tools and materials.

Tips for Assembly

1. Tapered pipe connections should be wrapped with pipe thread sealing tape, applied one thread back from the end.
2. Tighten all connections with proper tools.
3. Test all threaded connections under pressure with a commercial leak-test solution or soapy water.

NOTE: If a leak is detected, locate the source, correct the leak, and re-test.

5.2 Assembling the Respirator



1. Install the male end of the breathing tube into the breathing tube adapter by threading clockwise until hand tight.



2. Install the breathing tube/adapter assembly into the facepiece by aligning the adapter release button toward the top of facepiece, then push inward.

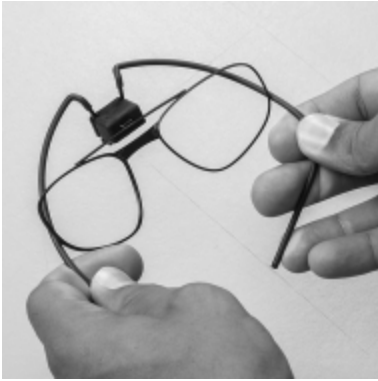
NOTE: An audible “click” will indicate full engagement.

5.3 Installing Spectacle Kit



1. Turn the head harness over the front of the facepiece so the harness covers the lens of the facepiece.

NOTE: This will open up the faceblank to make it easier to install the spectacle kit.



2. Squeeze in on the wire frame of the spectacle kit at the large bends about 2 in. (5 cm) from the ends.



3. Push the top part of the wire frame into the lens of the facepiece.
NOTE: The faceblank has three rubber tabs made to grab the wire frame.



4. Push one end of the wire frame up into the facepiece so the frame is in position along the edge where the lens and faceblank meet.



5. Make sure the end of the wire frame is in position in the small pockets in the faceblank on the edge of the lens.
6. Do Steps (4) and (5) on the opposite side.



7. Don the facepiece.
8. Adjust the lens frame up/down and in/out to optimize fit and visibility.

6 Functional Tests

WARNING!

If the respirator does not function properly for all functional checks as described in [6 Functional Tests](#), the respirator must be removed from service and the condition must be checked and corrected by an MSA trained and certified repair-person before using.

Failure to follow this warning can result in serious personal injury or death.

1. Check that the facepiece can hold a negative pressure. Refer to [8.3 Testing the Negative Pressure Seal](#).
2. Check function of the control valve.
 - a. Connect an approved, pressurized air-supply hose to the control valve.

NOTE: Ensure the air-supply hose is pressurized to the required NIOSH-approved pressure range.
 - b. Don the facepiece and breathe normally.
 - c. Adjust flow volume on control valve.
3. If any abnormal operation is noticed, remove respirator from service until the condition has been corrected.

7 Air Supply

7.1 Air Source

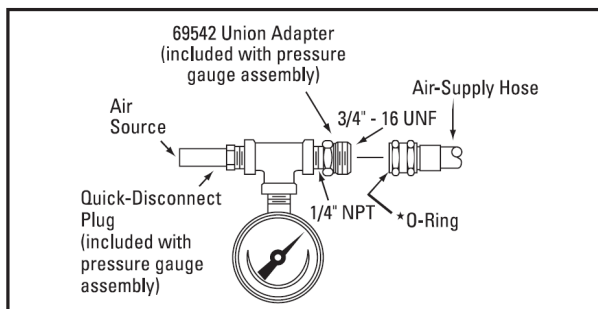
WARNING!

The air source must provide at least 4 cubic feet per minute (cfm) to each respirator and keep the inlet pressure at the correct range for the specific flow control device selected. If the pressure at any point in the supply system is higher than 125 psig, a pressure release mechanism must be installed.

Failure to follow this warning can result in serious personal injury or death.

The Constant Flow Airline Respirator requires a pressure regulated source of clean, respirable compressed air. The respirator is approved only when the air supplied to the respirator meets the requirements of the Compressed Gas Association Specification G-7.1 for Quality Verification Level (Grade D) Breathable Air. The purity of the air source is the responsibility of the user.

7.2 Inlet Pressure Gauge Assembly



A pressure gauge must be installed at the inlet of the air-supply hose to enable user to check that inlet pressure falls within the approved pressure range for the control valve.

Table 1 Pressure Gauge Assemblies with Quick-Disconnect Fittings

Pressure Gauge Assembly P/N	Plug Type
476734	Snap-Tite Parker
476735	Foster
476737	Hansen
476738	CEJN (locking)
481377	Snap-Tite / Parker (locking)

7.3 Air Supply Hose

⚠ WARNING!

Air-Supply Hoses have different temperature limitations based on material. Do not use respirator when ambient air temperature or inlet air temperature is outside of the range specified for each material.

Failure to follow this warning can result in serious personal injury or death.

The Constant Flow Airline Respirator can be used with a wide range of MSA air-supply hoses (identified in [Table 3](#)), which can be interconnected up to a maximum length as indicated in [Table 2](#).

Table 2 Approved Air Supply Hose Lengths

Control Valve	Hose Length
Low Pressure (10-15 psi)	8-50 ft.
High Pressure (35-40 psi)	8-300 ft

For low pressure assemblies, a maximum of two straight sections, or one coiled section, may be used to make up the maximum working air-supply hose length.

For high pressure assemblies, a maximum of 12 straight sections, or six coiled sections, may be used to make up the maximum working air-supply hose length.

When connecting hoses using locking quick-disconnects, only one section of 8 ft. or 15 ft. hose may be used.

7 Air Supply

Table 3 3/8" ID Air-Supply Hoses

Part Number	Hose Length (ft)	Material
481071	8	Neoprene
455020	15	Neoprene
455021	25	Neoprene
455022	50	Neoprene
481051	8	Polyvinyl Chloride
471511	15	Polyvinyl Chloride
471512	25	Polyvinyl Chloride
471513	50	Polyvinyl Chloride
484225	100	Polyvinyl Chloride
481513	8	Coiled Nylon
491514	15	Coiled Nylon
481515	25	Coiled Nylon
474043	50	Coiled Nylon

NOTE: The working length of coiled hose is approximately on-half the nominal length.

See [Table 4](#) for the operating temperature ranges of each air-supply hose material.

Table 4 Operating Temperature Ranges

Hose Material	Recommended Temp Limits
Polyvinyl Chloride	32°F - 120°F
Neoprene	-25°F - 212°F
Nylon	-25°F - 120°F

7.4 Interconnecting Air Supply Hoses

WARNING!

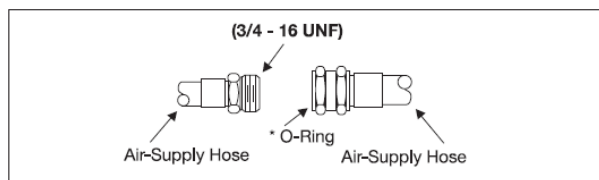
Do not use non-locking quick-disconnects to interconnect air-supply hoses. Use only the threaded connector (3/4-16 UNF) or the locking-type quick-disconnects listed.

Failure to follow this warning can result in serious personal injury or death.

MSA offers both threaded connectors and locking-type quick-disconnects to interconnect hoses.

7.4.1 Threaded Connectors

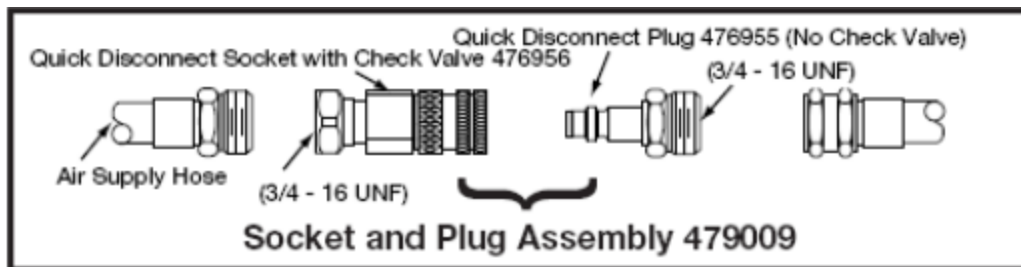
The following threaded connector assembly can be used to interconnect sections of approved air-supply hose.



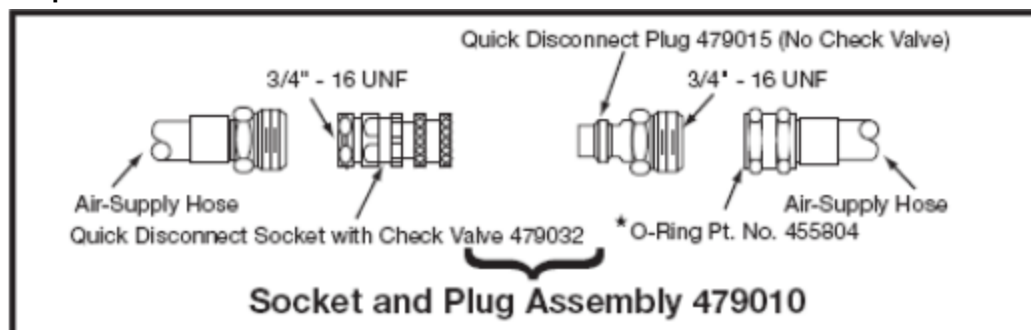
7.4.2 Locking-Type Quick-Disconnects

The CEJN chrome and SNAP-TITE/Parker locking quick-disconnects shown below may be used to interconnect air supply hoses. To connect, push the plug and socket together. To separate, the plug and socket must be pushed together and the sleeve retracted from the plug.

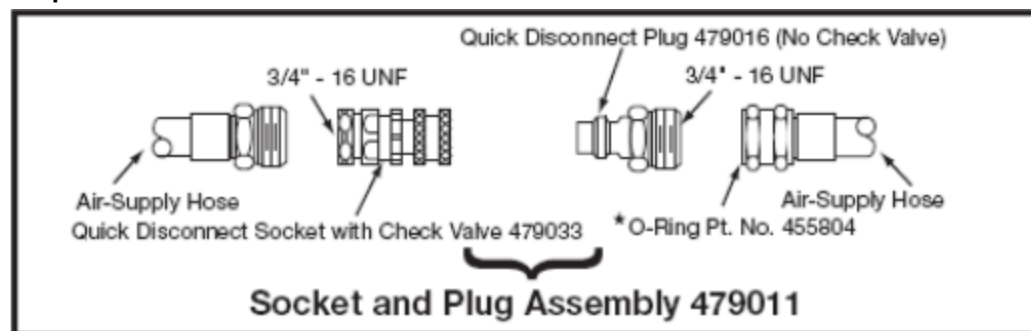
CEJN - Chrome



Snap-Tite / Parker – Aluminum



Snap-Tite / Parker – Stainless Steel



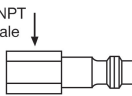
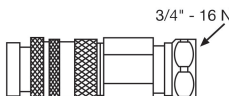
7.5 Quick-Disconnects

Various quick-disconnect assemblies that can be used with the system are shown below. Quick-disconnects are required to connect air-supply hoses to the respirator. Additionally, locking-type quick-disconnects can be used to interconnect lengths of MSA air-supply hose.


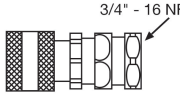
Locking quick-disconnects easily connect by pushing the plug and socket together. To separate, the plug and socket must first be pushed together then the sleeve retracted from the plug.

LOCKING TYPES

CEJN — Chrome (C)


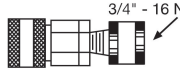


 <p>1/4" NPT Female</p> <p>479026 Plug For (C) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>476956 (C) Socket</p>
---	--

SNAP-TITE — Aluminum (AL), Brass (BR), Stainless Steel (SST)

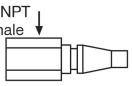
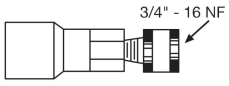


 <p>1/4" NPT Female</p> <p>479027 Plug For (AL) Quick Disconnect Assembly 479029 Plug For (Brass) Quick Disconnect Assembly 479028 Plug For (SST) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>479032 (AL) Socket 479034 (Brass) Socket 479033 (SST) Socket</p>
--	---

NON-LOCKING TYPES


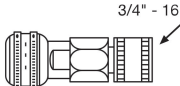


SNAP-TITE / Parker Aluminum (AL), Brass (BR), Stainless Steel (SST) Brass (BR) Stainless Steel (SST)

 <p>1/4" NPT - Female</p> <p>66274 Plug For (AL) Quick Disconnect Assembly 630307 Plug For (BR) Quick Disconnect Assembly 629672 Plug For (SST) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>455019 (AL) Socket Assembly 471777 (BR) Socket Assembly 471778 (SST) Socket Assembly</p>	 <p>1/4" NPT Female</p> <p>66272 (AL) Socket 630305 (BR) Socket 629673 (SST) Socket</p>	<p>+</p>  <p>1/4" NPT</p> <p>69541 (BR) Air Supply Hose Connector 69541 (BR) Air Supply Hose Connector 808360 (SST) Air Supply Hose Connector</p>
--	---	--	--

FOSTER — Steel (S) Stainless Steel (SST)


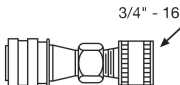


 <p>1/4" NPT Female</p> <p>55716 Plug For (S) Quick Disconnect Assembly 636460 Plug for (SST) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>467044 (S) Socket Assembly 801016 (SST) Socket Assembly</p>	<p>=</p>  <p>1/4" NPT Female</p> <p>628770 (S) Socket 636459 (SST) Socket</p>	<p>+</p>  <p>1/4" NPT</p> <p>69541 (BR) Air Supply Hose Connector 69541 (BR) Air Supply Hose Connector 808360 (SST) Air Supply Hose Connector</p>
--	--	--	--

HANSEN — Brass (BR)


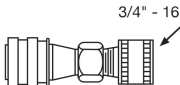


 <p>1/4" NPT Female</p> <p>630313 Plug For (BR) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>471501 (BR) Socket Assembly</p>	<p>=</p>  <p>1/4" NPT Female</p> <p>630311 (BR) Socket</p>	<p>+</p>  <p>1/4" NPT</p> <p>808360 (SST) Air Supply Hose Connector</p>
--	--	---	--

NON-LOCKING TYPES — WITH CHECK VALVE IN PLUG

FOSTER — Brass (BR)

 <p>1/4" NPT Female</p> <p>629981 Plug For (BR) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>470194 (BR) Socket Assembly</p>	<p>=</p>  <p>1/4" NPT Female</p> <p>629980 (BR) Socket</p>	<p>+</p>  <p>1/4" NPT</p> <p>69541 Air Supply Hose Connector</p>
--	--	---	---

HANSEN — Stainless Steel (SST)

 <p>1/4" NPT Female</p> <p>628208 Plug For (SST) Quick Disconnect Assembly</p>	 <p>3/4" - 16 NF</p> <p>471779 (SST) Socket Assembly</p>	<p>=</p>  <p>1/4" NPT Female</p> <p>628768 (SST) Socket</p>	<p>+</p>  <p>1/4" NPT</p> <p>808360 (SST) Air Supply Hose Connector</p>
---	---	--	--

8 Before Use

⚠ WARNING!

- Obey the instruction in this section to ensure the respirator operates correctly before going into a hazardous atmosphere.
- If the respirator does not function properly as described in this section, the respirator must be removed from service and must be checked and corrected for proper operation by an MSA trained or certified repair person before using.
- Wear impermeable protective clothing to prevent exposure to gases and vapors that can poison by skin absorption.
- If you have a beard, gross sideburns, or similar physical characteristics that prevent direct contact between your skin and the sealing surface of the facepiece, this device may not seal properly with your face (refer to NFPA 1500 and OSHA 29 CFR 1910.134). An incorrect facial seal can let contaminants leak into the facepiece, decreasing or removing respiratory protection. Do NOT use this device if such conditions exist.
- Perform a negative pressure seal test before each use.
- Ensure the correct noseclip is installed in the facepiece.
- Individuals who wear eyeglasses must use the G1 Spectacle Kit to guarantee a correct fit. Ordinary eyeglasses cannot be worn under the facepiece.
- Only remove the facepiece in a safe, nonhazardous, nontoxic atmosphere.
- Respirator shall only be used with approved number and length of air supply hose and within approved pressure range. Stop operation immediately if the system pressure cannot be brought into approved range.

Failure to follow these warnings can result in serious personal injury or death.

Prior to donning the respirator:

1. Ensure the respirator has passed visual inspection (see [4 Visual Inspection](#)) and functional tests (see [6 Functional Tests](#)).
2. Set up the air supply (see [7 Air Supply](#)).

8.1 Donning the Apparatus

⚠ WARNING!

The respirator must be donned in “safe” area not requiring respiratory protection.

Failure to follow this warning can result in serious personal injury or death.

1. Secure the support belt around waist and tighten as needed.
2. Secure respirator apparatus on the support belt using the control valve integrated belt clip.

8.2 Donning the Facepiece

⚠ WARNING!

- Make sure that the top of the facepiece seal is in direct contact with your forehead.
- Make sure that there is no hair between the facepiece seal and your skin.

Failure to follow these warnings can result in serious personal injury or death.



1. Loosen all head harness straps to within ¼ in. from the buckles.
2. Open the head harness with both hands and pull it over your head.

NOTE: If donning in cold weather, you MUST hold your breath before you start to put the facepiece in position in the following steps until after you tighten the harness straps in Step 8. If you do not, the facepiece can fog immediately.



3. Pull down on the back of the head harness.

4. Ensure the head harness is flat on the back of your head.
5. Ensure the head harness straps are not twisted.
6. Hold the respirator while you put the top of the nosecup in position on the bridge of your nose.

NOTE: Ensure the nosecup is centered on your face and does not impair vision.

7. Ensure chin is fully engaged in chin cup.
8. While holding the respirator in position over your face, tighten the harness straps one at a time by pulling straight back, not out away from the head. Tighten straps in the following order:
 - a. Both lower harness straps (neck)
 - b. Both upper harness straps (temple)
 - c. Top strap, if applicable

NOTE: The 4-point head harness does not have an adjustable top strap.



9. If donning in cold weather, you can now release your breath.
10. If necessary, tighten all straps a second time to ensure facepiece is tight.

NOTE: You should feel firm, even pressure from the nosecup to all points of contact with your face.
11. Ensure the head harness tabs are flush to the face and not folded under the facepiece seal or head harness straps.
12. Make sure head harness straps do not cut into your ears.
13. Perform a negative pressure seal test ([8.3 Testing the Negative Pressure Seal](#)).

8.3 Testing the Negative Pressure Seal

WARNING!

- If the facepiece does not hold a negative pressure seal, remove the respirator from service and return it to an MSA trained and certified repair technician.
- Perform a negative pressure seal test before each use and before going into a toxic atmosphere.

Failure to follow these warnings can result in serious personal injury or death.

To make sure that the facepiece-to-face tightness is correct, perform a negative pressure seal test before each use.

1. Hold the facepiece against the face to create an effective seal.
2. Block off air inlet using the palm of the hand or place thumb over the breathing tube opening inside the coupling nut.
3. Inhale gently and hold breath for 10 seconds.

NOTE: If the seal is good, the facepiece will collapse and remain collapsed against the face.

4. Remove hand and breathe normally.

NOTE: The exhalation valve should open and release the pressure inside the facepiece.

5. If any leakage is detected, investigate the cause, correct the condition, then retest.

NOTE: Do not use the apparatus if negative pressure cannot be maintained in the facepiece.

9 Using the Respirator

⚠ WARNING!

- Do NOT use the respirator if any of the following conditions occur:
 - The negative pressure seal test is unsuccessful.
 - The device is damaged.
 - Correct servicing/maintenance has not been done.
 - Genuine MSA replacement parts have not been used.
- DO NOT use the respirator when concentrations of contaminants are unknown or immediately dangerous to life or health. Use self-contained breathing apparatus.
- DO NOT use the respirator in environments from which the wearer cannot escape without respiratory equipment. Airline respirators provide no protection if the air supply fails. Use self-contained breathing apparatus.
- Go out of a contaminated area immediately if:
 - Breathing becomes difficult.
 - Dizziness or other distress occurs.
 - You taste or smell a contaminant.
 - You feel irritation of the nose or throat.
 - The respirator does not operate according to the instructions or training.
- Return to a safe atmosphere immediately if discoloration, crazing, blistering, cracking, or other deterioration of the facepiece lens material occurs.
- Particles and contaminants can enter an airline respirator system when air-supply hoses are disconnected and/or reconnected in a contaminated atmosphere. This could result in serious injury or death depending on the toxicity of the contaminant involved. It is the responsibility of the user to determine the potential risk and to take the necessary precautions which may include a requirement that NO disconnection or reconnection of air-supply hoses be permitted in a contaminated atmosphere. If in doubt DO NOT disconnect and/or reconnect.

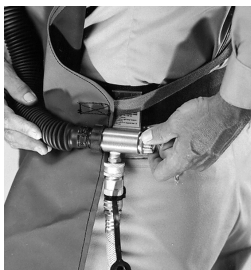
Failure to follow these warnings can result in serious personal injury or death.

With respirator donned, while in a safe area (an area that does not require respirator protection):

1. Connect free end of the breathing tube to the control valve by threading the coupling nut clockwise until hand tight.
2. Connect air-supply hose to control valve.

NOTE: If air supply is on, air will begin flowing to facepiece immediately.

3. If desired, adjust the air flow as follows:
 - a. With respirator fully assembled and donned, while in a “safe” area (an area that does not require respiratory protection), connect the air-supply hose to control valve. Air will begin flowing through respirator immediately.
 - b. If desired, adjust the air flow as follows:



- For more air flow, push in the flow control thumbwheel, then turn counter-clockwise.



- For less airflow, push in the flow control thumbwheel, then turn clockwise.

NOTE: The thumbwheel can be used to vary air flow, but cannot reduce flow below the required minimum 4 cfm rate when the proper pressure is used at the inlet of the air-supply hose.

9.1 Cold Weather Operation

⚠ WARNING!

Before going into a hazardous environment, make sure that there is no water, moisture, or dampness on or in any of the respirator components. Any moisture on or in the respirator components can freeze and result in a malfunction of the respirator.

Failure to follow this warning can result in serious personal injury or death.

Water inside any respirator component can freeze into ice and restrict airflow. Make sure that moisture is completely removed from all respirator components before use.

10 After Use

⚠ WARNING!

- If you are working in a contaminated atmosphere, or you are exposed to contaminants while in the work area, take the proper precautions to decontaminate the facepiece and head harness before doffing the facepiece. You must determine the potential risk and take the necessary precautions.
- Obey the decontamination and disposal procedures set by the applicable authorities.
- DO NOT examine the respirator before it is cleaned if there is a risk of exposure to contaminants.
- Never remove the facepiece except in a safe, non-hazardous, non-toxic atmosphere.

Failure to follow these warnings can result in serious personal injury or death.

While leaving the work area, remain connected to the air-supply hose until a safe area is reached.

Once in a safe area not requiring respiratory protection, the air-supply hose can be disconnected and the facepiece can be removed.

10.1 Doffing the Facepiece



1. Loosen the head harness by pulling the buckles forward using your fingers.



2. Pull the head harness forward over the head.



3. Grip the front of the facepiece and pull away and down from the user.

10.2 Doffing the Apparatus

1. Remove the control Valve from the support belt.
2. Take off the support belt.

11 Cleaning and Disinfecting

⚠ WARNING!

- Cleaning and disinfecting at temperatures above 110°F (38°C) will increase the potential for overheating and distortion of parts which would require replacement.
- DO NOT use any cleaning substances that can or might attack any part of the apparatus.
- DO NOT use radiant heat such as the sun or radiators to dry cleaned parts.
- If a drying cabinet is used, make sure the temperature is not above 140°F (60°C).
- If not rinsed thoroughly, cleaning agent residue may irritate the wearer's skin.
- Ensure there is no water, moisture, or dampness on or in the facepiece and regulator before returning it to service.
- Failure to clean and decontaminate the respirator correctly after each use can cause overexposure to contamination and result in illness, disease, or death.

Failure to follow these warnings can result in serious personal injury or death.

Depending on the cleaning policy adopted, either a designated person or the user should clean the respirator after each use to limit exposure to possible contamination that may be present on the unit after use. ANSI standards suggest that users should be trained in the cleaning procedure.

MSA recommends the use of Confidence Plus Cleaning Solution (P/N 10009971), which cleans and disinfects components in one operation, retains its germicidal efficiency in hard water to inhibit the growth of bacteria, and will not deteriorate rubber, plastic, glass, or metal parts. Refer to the label to prepare the Confidence Plus Germicidal Cleaner.

If Confidence Plus Cleaning Solution is not used, wash in a mild cleaning solution and make sure to rinse thoroughly, then submerge the facepiece in a germicide solution for the manufacturer's recommended time.

If the device has heavy smoke residue or dirt accumulation, use a damp sponge with a mild soap solution or a soft/medium bristle brush to remove deposits that may interfere with normal operation of the harness (straps and buckles) or breathing tube adapter.

11 Cleaning and Disinfecting

NOTE: If a decontamination procedure, created by a certified health and/or safety professional, has been established for the application in which this respirator is used, that procedure should take precedence.

Disassemble respirator components prior to cleaning.

11.1 Facepiece

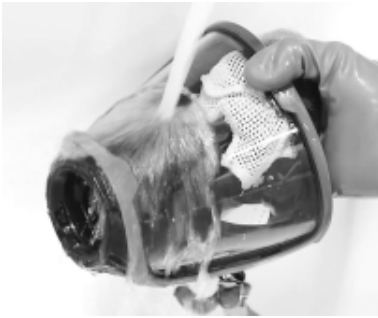
In general, only the facepiece requires cleaning and disinfecting after each use.

NOTE: The head harness can be cleaned as part of the facepiece or removed to be cleaned separately.



1. Use the instructions on the label to prepare a solution of Confidence Plus Cleaning Solution (P/N 10009971) in a clean bucket or sink.
2. Submerge facepiece in the solution of Confidence Plus Cleaning Solution for a minimum of 30 seconds.

NOTE: If necessary, use a soft brush or sponge to clean accumulated dirt or contaminants.



3. Rinse the facepiece thoroughly in clean water that is not more than 110°F (43°C), and is preferably running and draining.



4. To clean and rinse the facepiece exhalation valve, use a blunt object to push in on the stem and flush the valve with clean water.

5. Allow the facepiece to air dry.

NOTE: Do not put parts near a heater or in direct sunlight to dry.

NOTE: If a drying cabinet is used, make sure the temperature is not more than 140°F (60°C)

6. Make sure there is no water, moisture, or dampness on or in the facepiece before reassembling.
7. Operate the facepiece exhalation valve manually to make sure it operates correctly.
8. Perform a negative pressure seal before returning the facepiece to service.

11.2 Breathing Tube

When deemed necessary, clean and disinfect the breathing tube.

1. Use the instructions on the label to prepare a solution of Confidence Plus Cleaning Solution (P/N 10009971) in a clean bucket or sink.
2. Submerge breathing tube in the solution of Confidence Plus Cleaning Solution for a minimum of 30 seconds.

NOTE: If necessary, use a soft brush or sponge to clean accumulated dirt or contaminants.

3. Rinse the breathing tube thoroughly in clean water that is not more than 110°F (43°C), and is preferably running and draining.
4. Allow the breathing tube to air dry.
 - NOTE:** Do not put parts near a heater or in direct sunlight to dry.
 - NOTE:** If a drying cabinet is used, make sure the temperature is not more than 140°F (60°C)
5. Make sure there is no water, moisture, or dampness on or in the breathing tube before reassembling.

11.3 Breathing Tube Adapter

When deemed necessary, clean and disinfect the breathing tube adapter.



1. Use the instructions on the label to prepare a solution of Confidence Plus Cleaning Solution (P/N 10009971) in a clean bucket or sink.
2. Remove rubber cover from the adapter.



3. Submerge the adapter and the adapter cover in the solution of Confidence Plus Cleaning Solution for a minimum of 30 seconds.
 - NOTE:** If necessary, use a sponge or soft brush to clean parts.



4. Rinse parts thoroughly in clean water that is not more than 110°F (43°C) and is preferably running and draining.

5. Allow parts to air dry.
 - NOTE:** Do not put parts near a heater or in direct sunlight to dry.
 - NOTE:** If a drying cabinet is used, make sure the temperature is not more than 140°F (60°C)
6. Operate the adapter exhalation valve manually to ensure proper operation.
7. Make sure there is no water, moisture, or dampness on or in the parts before reassembling.
8. Install the cover onto the adapter.
9. Ensure the adapter connects to the facepiece correctly.
10. Perform a negative pressure seal test before returning to service ([8.3 Testing the Negative Pressure Seal](#)).

12 Storage

11.4 Other Components

The other respirator components only need to be cleaned if they are soiled (i.e. dirt accumulation).

Using a sponge damp with a mild soap or a soft/medium bristle brush, remove deposits that may interfere with normal operation, in a well-ventilated area, from the following components:

- Control Valve
- Support Belt
- Air Supply Hoses

Make sure there is no water, moisture, or dampness on or in any of the components before reassembling and returning the respirator to service.

Use the inspection procedures in [4 Visual Inspection](#) to examine the entire respirator as it is reassembled.

12 Storage

WARNING!

DO NOT store the respirator near substances that can attack respirator components.

Failure to follow this warning can result in serious personal injury or death.

1. Clean and disinfect the respirator as described in [11 Cleaning and Disinfecting](#).
2. Inspect the entire apparatus as you reassemble it, following the instructions in [4 Visual Inspection](#).
3. Ensure the respirator is thoroughly dried before storing.
4. Store the respirator in a cool, dry place away from direct sunlight and chemicals that can attack respirator components.

NOTE: Do not distort the facepiece during storage.

13 Flow Test

The respirator must be flow tested annually using an MSA-approved flow test device.

14 Retiring the Respirator

The decision to retire a respirator should be based on performance data. Retire respirators that do not meet specified performance levels.

Dispose of retired respirators in accordance with local, state, and federal regulations.