A Guide to Air-Line Systems

Description

Type C Supplied-Air Respirators, more commonly referred to as air-line respirators, are designed to provide long-duration respiratory protection.

They generally consist of a full-facepiece or half-mask facepiece connected by an air-supply hose to an air source (either a compressor or bank of large air cylinders). When connected to the air source, the respirator delivers a supply of respirable air to the user.

Accessory equipment, such as pressure regulators, pressure relief valves, carbon monoxide monitors and filters for air compressors, may be necessary to ensure that the air is at the proper pressure and quality for breathing. Air quality must be Quality Verification Level Grade D or better as defined in ANSI Standard Z-86.1-1973 (Compressed Gas Association Specification G-7.1 Commodity Specification for Air).

Current air-line systems fall into two categories: Pressure-Demand and Constant Flow. The difference between the two is how the air is supplied.

Pressure-demand systems deliver air only when the user necessitates it. Thus, pressure-demand devices afford greater breathing efficiency.

In contrast, with a constant flow device, air flow to the respirator is continuous. However, because the air flow is continuous, constant flow air-line systems are generally used only with a compressor for virtually unlimited air supply.

Type C Supplied-Air Respirators are approved by the National Institute for Occupational Safety and Health (NIOSH) for use in atmospheres not immediately dangerous to life and health (IDLH) or from which the wearer can escape without wearing the respirator.

“Not immediately dangerous to life and health” means any hazardous atmosphere which may produce physical discomfort immediately, chronic poisoning after repeated exposure, or acute adverse physiological symptoms after prolonged exposure. (42 CFR, Part 84 subpart A, 84.2(x)).

This limitation is necessary because the air-line respirator depends entirely on an air supply not carried by the wearer. Therefore, if the air hose were severed or crimped, or the air compressor failed, the air supply to the wearer would be shut off. The wearer would be without respiratory protection and might not be able to safely escape from an IDLH atmosphere.

Another limitation of air-line respirators is that the air-supply hose limits the wearer to a fixed distance from the air source. As an air-line respirator user, it is your responsibility to supply the respirator with breathable air—Grade D or better. The following pages show complete hook-ups of various air-line systems, both pressure-demand and constant flow, from the air source to the respirator. The following information is a guide designed to aid you in hooking up your own air-line system.

Pressure-Demand Air-Line Respirators

Pressure-Demand Air-Line Respirators are designed to maintain a slight positive pressure of air inside the facepiece whether the wearer is inhaling or exhaling. This helps prevent contaminants from seeping into the facepiece, even if there should be small breaks in the face-to-facepiece seal.

Pressure-Demand Air-Line Respirators are designed specifically for non-IDLH toxic atmospheres. The exception is if the respirator is equipped with an egress cylinder of air to use during escape.

Pressure-Demand Air-Line Units require an air supply from an uncontaminated compressed-air source as stipulated in General Industry Safety and Health Regulations, Part 1910.134 (OSHA) with the delivered air conforming to at least Grade D of ANSI Standard Z86.1.

A common air source for pressure-demand systems is a cylinder of air or tank of large air cylinders which can be set up in remote sites that might otherwise be impossible to reach with a large stationary compressor.

Another air source option for pressure-demand respirators is a cylinder cascade system. A cascade system consists of several air cylinders joined together in a bank by means of coupler tees. Generally, the banks consist of three or more cylinders of either 244 cubic-feet or 330 cubic-feet capacity. One or more workers can breathe from a cascade system.

If using a compressed air or a compressor system, each respirator generally requires 1.5 cfm per person and needs to maintain the inlet (working) pressure specified in the respirator instruction manual.

At a normal rate of consumption, a three-cylinder bank used with a pressure-demand unit will provide between 12 to 16.5 man-hours of air, depending on cylinder capacity.

<table>
<thead>
<tr>
<th>MSA Pressure-Demand Air-Line Units Include:</th>
<th>MSA Constant Flow Respirators with Loose-Fitting Hoods Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PremAire® Air-Line Respirator System:</strong></td>
<td><strong>MSA Constant Flow Respirators with Tight-Fitting Facepieces Include:</strong></td>
</tr>
<tr>
<td>• with Escape Cylinder</td>
<td>• Constant Flow Air-Line Respirator</td>
</tr>
<tr>
<td>(for egress from IDLH atmospheres)</td>
<td>• Constant Flow Direct-Connect Air-Line Respirator</td>
</tr>
<tr>
<td>• with Vortex Tube</td>
<td>• Constant Flow Duo-Twin™ Air-Line Respirator</td>
</tr>
<tr>
<td>(for suit-cooling applications)</td>
<td>• Constant Flow Duo-Flo™ Air-Line Respirator</td>
</tr>
<tr>
<td>• with Dual-Supply</td>
<td>• Abrasi-Blast™ Supplied-Air Respirator</td>
</tr>
<tr>
<td>(to eliminate additional hose lengths)</td>
<td></td>
</tr>
</tbody>
</table>

Constant Flow Air-Line Respirators

Constant Flow Air-Line Respirators also maintain a slight positive pressure of air inside the facepiece whether the wearer is inhaling or exhaling. This helps prevent contaminants from seeping into the facepiece, even if there should be small breaks in the face-to-facepiece seal.

Constant Flow Air-Line Respirators maintain air flow at all times, rather than only on demand. Because of this, constant flow units almost always use a compressor as their air source. A constant flow unit would quickly exhaust the air from a cylinder or cascade system.

There are two types of Constant Flow Air-Line Respirators: one uses a tight-fitting facepiece; the other, a loose-fitting hood or helmet. Inlet air pressure must be able to maintain at least 4 cfm for a tight-fitting facepiece and 6 cfm for a loose-fitting hood.

The inlet pressure for Constant Flow Air-Line Respirators varies between 10-15 psig for low pressure systems and 35-40 psig for high pressure systems.

For Constant Flow Air-Line Hoods, the inlet pressure usually ranges between 10-15 psig and 85-100 psig, depending on the type. Also, depending on the inlet pressure, the length of approved air-supply hose for these systems is usually between 8-50 feet for low-pressure systems and 8-300 feet for high-pressure systems. Consult the instruction manual for your respirator to determine the specific inlet pressure and hose length.

<table>
<thead>
<tr>
<th>MSA Constant Flow Respirators with Loose-Fitting Hoods Include:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Versa-Hood™ Air-Supplied Hood</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MSA Constant Flow Respirators with Tight-Fitting Facepieces Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Constant Flow Air-Line Respirator</td>
</tr>
<tr>
<td>• Constant Flow Direct-Connect Air-Line Respirator</td>
</tr>
<tr>
<td>• Constant Flow Duo-Twin™ Air-Line Respirator</td>
</tr>
<tr>
<td>• Constant Flow Duo-Flo™ Air-Line Respirator</td>
</tr>
<tr>
<td>• Abrasi-Blast™ Supplied-Air Respirator</td>
</tr>
</tbody>
</table>
The PremAire Supplied-Air Respirator System is one of the most advanced air-line respirators available. Designed to provide the utmost in versatility, the modular system allows users to order the respirator configured for their specific application.

A lightweight mask-mounted regulator provides high air flow and responds quickly to changing breathing requirements.

The basic PremAire Respirator includes the patented manifold and can be upgraded with any of the three following options:

1. an Escape Cylinder that permits emergency escape from Immediately Dangerous to Life and Health (IDLH) atmospheres. (Please see Note 2 below ordering information.)
2. a Dual-Supply option that lets workers connect from one pressurized continuous air source to another without losing continuity of air flow.
3. a Vortex Tube option that delivers whole-body temperature control for added worker comfort.

The PremAire Respirator is a full-face, pressure-demand, Type-C supplied-air respirator with a patented waist-mounted manifold.

In addition to the flexibility offered by the manifold, the PremAire Supplied Air Respirator System is available with the Firehawk® Mask-Mounted regulator (MMR). This revolutionary 2nd-stage regulator, offered in push-to-connect (PTC) and slide-to-connect (STC) versions, combines user-friendly connections and unbeatable care and maintenance. The Ultra Elite Pressure-Demand Facepiece or the Advantage 4000 Facepiece with APR conversion capability offer choice of sizes and nosecups. The Firehawk® MMR Regulator lets users choose from Push-To-Connect (PTC) or Slide-To-Connect (STC) attachments. All regulators feature a bypass and choice of solid cover or purge. For more information, please reference Bulletin 0114-20 or call MSA Customer Service at 1-800-MSA-2222.

PremAire System User’s Guide
The PremAire System User’s Guide provides a comprehensive core instruction manual covering the basic PremAire Supplied-Air Respirator, plus four sub-manuals covering each of the PremAire System options (escape cylinder, Duo-Twin, dual-supply and vortex tube.) The User’s Guide also includes an illustrated parts list, a quick-reference chart showing the various PremAire Respirator configurations available, and a hard-cover binder with tab pages to house and organize these materials.

All these manuals are available on our website: www.MSAnet.com

Traditional MSA Part Numbers
See the following page for Assemble-To-Order information. For customers who require faster delivery, the most popular PremAire system combinations can still be ordered with a traditional MSA part number. These units are always stocked in our warehouse and are ready to ship upon receipt of order. These assemblies come with a medium HyCar Ultra Elite Facepiece and nosecup with rubber harness. For these assemblies, Quick-Disconnects must be ordered separately (see p. 38; you need a male plug with female 1/4" NPT (column 2), and a female socket assembly (column 5).

Complete Assemblies with Firehawk STC Regulator

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Assembly w/ Firehawk STC, 5-minute 3AL aluminum cylinder, right-hip model, with case</td>
<td>10045164</td>
</tr>
<tr>
<td>Complete Assembly w/ Firehawk STC, 10-minute 3AL aluminum cylinder, right-hip model, with case</td>
<td>10045165</td>
</tr>
</tbody>
</table>

MSA University, MSA’s premier online training center, offers a wide range of training and informational materials. Register today at www.MSAnet.com/MSAU
The Assemble-To-Order System

MSA offers more PremAire System Respirator choices than ever before. Thousands of possible combinations let workers select just the right PremAire Respirator for the job.

MSA’s Assemble-To-Order System (ATO) makes ordering the right unit easier and faster than ever. Instead of choosing from a handful of complete PremAire assemblies, users can order a custom-made unit with every option exactly as desired. The ATO System works by allowing users to create their own part numbers. Each digit of an ATO part number will represent a specific component, so that the entire part number represents a finished respirator built exactly to the desired specifications.

Using the ATO System below is easy. The user selects the number or letter that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator. A number or letter from each category must be selected. For example, that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator.

The Assemble-To-Order System is easy. The user selects the number or letter that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator. A number or letter from each category must be selected. For example, that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator.

PremAire® Air-Supplied Respirator System Assemble-To-Order Matrix

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Quantity</th>
</tr>
</thead>
</table>

Advantages of the ATO System include:

- You get the exact model of PremAire you need
- No special orders, because all orders are customized
- Fresher cylinders from our continually rotated inventory
- Simplified ordering process
- Timely delivery

MSA’s Assemble-To-Order System (ATO) makes ordering the right unit easier and faster than ever. Instead of choosing from a handful of complete PremAire assemblies, users can order a custom-made unit with every option exactly as desired. The ATO System works by allowing users to create their own part numbers. Each digit of an ATO part number will represent a specific component, so that the entire part number represents a finished respirator built exactly to the desired specifications.

Using the ATO System below is easy. The user selects the number or letter that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator. A number or letter from each category must be selected. For example, that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator.

The Assemble-To-Order System is easy. The user selects the number or letter that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator. A number or letter from each category must be selected. For example, that corresponds to the choice of components and fills in the appropriate component, so that the entire part number represents a finished respirator.

*Note: This matrix must only be used for ordering complete PremAire Systems. This matrix cannot be used for ordering individual components (i.e., facepieces, escape cylinders, etc.). Please order components separately using their standard MSA part number.

*For applications strictly limited to non-IDLH atmospheres, NIOSH requires that the respirator system be configured without a bypass on the Fire Hawk Mask-Mounted Regulator (MMR). Please contact MSA Customer Service for more information.

*Note: See page 39 for air-line hoses.
PremAire® Air-Supplied Respirator

PremAire System Upgrade Kits

<table>
<thead>
<tr>
<th>Escape Cylinder Kits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes carrier assembly, 1st stage regulator, hose and cylinder</td>
<td></td>
</tr>
<tr>
<td>Kit with Fully-wound Carbon Fiber Five-minute Cylinder, for Right Hip</td>
<td>800696</td>
</tr>
<tr>
<td>Kit with Fully-wound Carbon Fiber Five-minute Cylinder, for Left Hip</td>
<td>800694</td>
</tr>
<tr>
<td>Kit with Fully-wound Carbon Fiber Ten-minute Cylinder, for Right Hip</td>
<td>800697</td>
</tr>
<tr>
<td>Kit with Fully-wound Carbon Fiber Ten-minute Cylinder, for Left Hip</td>
<td>800695</td>
</tr>
</tbody>
</table>

Vortex Tube Kits

| Kit with 6" Hose, Cool-Only Version | 800706  |
| Kit with 6" Hose, Warm/Cool Version | 800710  |
| Kit with 12" Hose, Cool-Only Version | 801012  |
| Kit with 12" Hose, Warm/Cool Version | 801014  |

Dual-Supply Kit

| Includes 8-inch extension hose, less quick-disconnect assembly | 800044  |
| Includes 15-inch extension hose, less quick-disconnect assembly | 800986  |

PremAire Air-Line Filter Kit

| Filter Kit | 811940  |
| Replacement filter element and gasket | 811984  |

Replacement PremAire Respirator Facepieces

Ultra Elite® Facepieces for Firehawk PTC MMR

<table>
<thead>
<tr>
<th>With nosecup. Non-NFPA.</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hycar, with rubber head harness</td>
<td>10037650</td>
<td>10037648</td>
<td>10037652</td>
</tr>
<tr>
<td>Hycar, with EZ-Don head harness</td>
<td>10037651</td>
<td>10037649</td>
<td>10037653</td>
</tr>
<tr>
<td>Hycar, with Speed-ON head harness</td>
<td>10043419</td>
<td>10043415</td>
<td>10043433</td>
</tr>
<tr>
<td>Silicone with rubber head harness</td>
<td>10043417</td>
<td>10043413</td>
<td>10043431</td>
</tr>
<tr>
<td>Silicone with EZ-Don head harness</td>
<td>10043418</td>
<td>10043414</td>
<td>10043432</td>
</tr>
<tr>
<td>Silicone with Speed-ON head harness</td>
<td>10043430</td>
<td>10043416</td>
<td>10043434</td>
</tr>
</tbody>
</table>

Ultra Elite Facepieces for Firehawk STC MMR

<table>
<thead>
<tr>
<th>With nosecup. Non-NFPA.</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hycar, with rubber head harness</td>
<td>—</td>
<td>10039982</td>
<td>—</td>
</tr>
<tr>
<td>Silicone with rubber head harness</td>
<td>—</td>
<td>10039983</td>
<td>—</td>
</tr>
</tbody>
</table>

Advantage® 4000 Facepieces for Firehawk PTC MMR

<table>
<thead>
<tr>
<th>With nosecup. Non-NFPA.</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hycar, with rubber head harness</td>
<td>10075911</td>
<td>10075905</td>
<td>10075917</td>
</tr>
<tr>
<td>Hycar, with net head harness</td>
<td>10075915</td>
<td>10075909</td>
<td>10075921</td>
</tr>
<tr>
<td>Silicone, with rubber head harness</td>
<td>10075910</td>
<td>10075904</td>
<td>10075916</td>
</tr>
<tr>
<td>Silicone, with net head harness</td>
<td>10075914</td>
<td>10075908</td>
<td>10075920</td>
</tr>
</tbody>
</table>

PremAire® Cadet Supplied-Air Respirator

The PremAire Cadet Respirator is a pressure-demand, Type-C, supplied-air respirator with a mask-mounted regulator that responds quickly to wearer’s changing breathing requirements. The respirator can serve as a basic air-supplied device, or it can be easily upgraded to the versatile, state-of-the-art PremAire System. Designed for a variety of applications, PremAire Cadet Respirators can be used in non-IDLH (Immediately Dangerous to Life or Health) environments only. Operating inlet pressure is 60-100 psig. NIOSH approved.

Complete Assemblies

All listed configurations include: Ultra Elite facepiece (medium size, Hycar, rubber head harness) or Advantage 4000 facepiece (medium size, Hycar, net head harness) with Push-To-Connect Firehawk MMR and nylon belt assembly.

<table>
<thead>
<tr>
<th>Hose</th>
<th>Fittings</th>
<th>Ultra Elite Facepiece</th>
<th>Advantage 4000 Facepiece</th>
</tr>
</thead>
<tbody>
<tr>
<td>30” IP (intermediate pressure)</td>
<td>None</td>
<td>10054790</td>
<td>10081100</td>
</tr>
<tr>
<td>30” IP (intermediate pressure)</td>
<td>Snap-Tite AL</td>
<td>10054793</td>
<td>10081098</td>
</tr>
<tr>
<td>42” IP (intermediate pressure)</td>
<td>None</td>
<td>10054791</td>
<td>10081171</td>
</tr>
<tr>
<td>42” IP (intermediate pressure)</td>
<td>Snap-Tite AL</td>
<td>10054792</td>
<td>10081099</td>
</tr>
</tbody>
</table>

Note: See page 38 to order quick-disconnects for use with the PremAire and PremAire Cadet Systems (column 2 for the plug and column 5 for the socket assembly).
PremAire® Cadet Escape Respirator—
Combination Supplied-Air Respirator with Escape Cylinder

Size, Simplicity, and Economy
The PremAire Cadet Escape Respirator is designed to be versatile, comfortable, and affordable. A streamlined new design offers a first-stage regulator and cylinder valve within one assembly, creating a very small size and profile that is less likely to snag when working in tight places.

Low-profile escape cylinders can be worn on either the right or left hip. The Ultra Elite Pressure-Demand Facepiece or Advantage 4000 Facepiece with APR conversion capability offer choice of sizes and nose cups. The Firehawk® MMR Regulator let users choose from Push-To-Connect (PTC) or Slide-To-Connect (STC) attachments. All regulators feature a bypass and a choice of solid cover or purge.

The economical PremAire Cadet Supplied-Air Respirator with Escape Cylinder is a cost-effective respiratory protection solution for many industries. For ordering ease and flexibility, these systems will be sold as part-numbered kits or through MSA’s Assemble-To-Order (ATO) System. The PremAire Cadet Supplied-Air Respirator with Escape Cylinder is NIOSH-approved as a combination supplied-air respirator and self-contained breathing apparatus.

Features and Benefits
- New one-piece first-stage regulator and cylinder valve;
  - Combination cylinder valve and first stage pressure reducer
  - Very small size and profile
- Regulator uses many of same parts as MSA FireHawk SCBA
- Regulator body protects cylinder gauge – no need for rubber gauge guard, reduces size!
- Choice of cylinder hip placement allows workers freedom and versatility
- Two harness materials:
  - Standard Nylon-ideal for chemical resistance
  - Kevlar-ideal in high heat environments or in areas with potential for sparks
- Two attachments for keeping cylinder secure on belt
  - Sturdy metal cylinder support bands
  - Nylon or Kevlar cylinder bags available for carbon fiber cylinders
- Shoulder support strap incorporates hose keeper; regulator hose stays in place close to body, reduces chance of snagging
- Bracket/holder for second stage pressure regulator

<table>
<thead>
<tr>
<th>Type</th>
<th>Carrier &amp; Harness Type</th>
<th>Pad Option</th>
<th>Escape Cylinder</th>
<th>MMR Regulator</th>
<th>Facepiece</th>
<th>Nosecup</th>
<th>Head Harness</th>
<th>Quick Disconnect</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>PremAire Cadet Escape</td>
<td>0</td>
<td>1</td>
<td>A</td>
<td>None</td>
<td>None</td>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>Nylon, strap carrier, standard</td>
<td>0</td>
<td>1</td>
<td>A</td>
<td>None</td>
<td>None</td>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Kevlar, strap carrier, standard</td>
<td>0</td>
<td>1</td>
<td>A</td>
<td>None</td>
<td>None</td>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Nylon, bag carrier, standard</td>
<td>0</td>
<td>1</td>
<td>A</td>
<td>None</td>
<td>None</td>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Kevlar, bag carrier, standard</td>
<td>0</td>
<td>1</td>
<td>A</td>
<td>None</td>
<td>None</td>
<td>0</td>
<td>None</td>
<td>0</td>
</tr>
</tbody>
</table>

Firehawk slide regulators not compatible with Advantage 4000 facepiece

Applications
Chemical and petrochemical Hazards materials Certified spaceentry Firefighting operations
**Duo-Twin™ Respirators and Duo-Flo™ Respirators**

---

**Duo-Twin Respirator**

The Duo-Twin Respirator comes in a Constant-Flow version; Constant-Flow respirators are normally used where an ample air supply is available, such as that provided by an air compressor. The MSA Duo-Twin Respirator features an air-purifying cartridges, which also protect against a variety of contaminants. If the air supply should ever fail on the Constant-Flow unit, the user is automatically protected by the air-purifying cartridge.

This product is popular in the pharmaceutical, chemical, petrochemical, and nuclear industries. This MSA respirator should not be used in atmospheres containing less than 19.5% oxygen. NIOSH approved.

**Complete Assembly**

Complete with facepiece, breathing tube, adapter assembly/regulator, web belt and Foster steel plug and socket assembly.

- Constant Flow Duo-Twin Respirator
  - 484087

**Duo-Twin Plug**

Allows conversion of a Duo-Twin facepiece to a Twin-Cartridge Respirator.

- Duo-Twin Plug
  - 486637

* Cartridges must be ordered separately. See page 15 for ordering information.

---

**Duo-Flo Respirator**

The Duo-Flo Respirator comes in a Constant-Flow version; Constant-Flow Respirators are normally used where an ample air supply is available, such as that provided by an air compressor. Duo-Flo Respirators use the MSA Ultra Filter, a compact round filter cartridge that has a large effective filter area to provide low-breathing resisting. This cartridge has a P100 classification. Duo-Flo Respirators are popular in the pharmaceutical, chemical, petrochemical, and nuclear industries. This MSA respirator should not be used in atmospheres containing less than 19.5% oxygen. NIOSH approved.

**Complete Assemblies (one P100 Ultra Filter is included)**

- Constant Flow Duo-Flo Respirator w/full-face Ultravue Facepiece
  - 466095

- Constant Flow Duo-Flo Respirator w/full-face Advantage 4000 Facepiece
  - 10091952

**Replacement Cartridges for Duo-Flo Respirators**

- Round Ultra Filter Cartridge, box of 6
  - 10010420

- Round Ultra Filter Cartridge, box of 50
  - 10010421
The Abrasi-Blast Respirator provides respiratory and upper body protection for workers in shipbuilding, the construction industry, utilities, and other applications where blasting with abrasives is performed.

A complete Abrasi-Blast Respirator is made up of a hood, facepiece with lens housing, breathing tube, cover lens cartridge assembly, flow-control device, approved air-supply hose, and support belt.

During blasting operations, the lens of the Abrasi-Blast Respirator is protected by 2 to 4 flat glass cover lenses mounted in a special foam material. Each cover lens is removed by integral pull tabs when it becomes so abraded that vision is reduced. There is no need to stop to change lenses, as is necessary with most conventional blasting hoods. Approved by NIOSH.

For more complete information, see Bulletin 0112-37.

**Complete Assemblies with Hypalon Hood**

Includes one lens cartridge consisting of four 0.06-inch untempered glass cover lenses, flow control device, Snap-Tite aluminum quick-disconnect fitting, adjustable valve-connector body, facepiece (medium) with dual exhalation valves and lens housing, breathing tube, web belt, and air-hose connector.

<table>
<thead>
<tr>
<th>Inlet Pressure Range</th>
<th>Hypalon Hood with Collar</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 psi</td>
<td>Waist-Length</td>
</tr>
<tr>
<td></td>
<td>468716</td>
</tr>
<tr>
<td></td>
<td>Shoulder-Length</td>
</tr>
<tr>
<td></td>
<td>468720</td>
</tr>
<tr>
<td>35-40 psi</td>
<td>468718</td>
</tr>
<tr>
<td></td>
<td>468722</td>
</tr>
<tr>
<td>Abrasi-Blast Duo-Flo</td>
<td>478116</td>
</tr>
<tr>
<td></td>
<td>478117</td>
</tr>
</tbody>
</table>

**Lens Cartridges (contains 12 cartridges per carton)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Recommended use</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.06-in thick, untempered lens (4 lenses in each cartridge)</td>
<td>light blasting</td>
<td>473238</td>
</tr>
<tr>
<td>0.06-in thick, tempered lens (4 lenses in each cartridge)</td>
<td>light blasting plus added protection against glass breakage</td>
<td>473240</td>
</tr>
<tr>
<td>0.09-in thick, untempered lens (3 lenses in each cartridge)</td>
<td>medium blasting</td>
<td>473798</td>
</tr>
<tr>
<td>0.09-in thick, tempered lens (3 lenses in each cartridge)</td>
<td>medium blasting plus added protection against glass breakage</td>
<td>473800</td>
</tr>
<tr>
<td>0.12-in thick, untempered lens (two layers laminated) (2 lenses in each cartridge)</td>
<td>heavy blasting</td>
<td>473802</td>
</tr>
<tr>
<td>0.12-in thick, untempered lens (two layers laminated) (3 lenses in each cartridge)</td>
<td>heavy blasting</td>
<td>481742</td>
</tr>
</tbody>
</table>

**Hood Options**

<table>
<thead>
<tr>
<th></th>
<th>Hypalon</th>
<th>Duck Cloth</th>
<th>Neoprene</th>
<th>Knit Back/ Hypalon Front</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waist-length</td>
<td>468724</td>
<td>480697</td>
<td>486303</td>
<td>—</td>
</tr>
<tr>
<td>Chest-length</td>
<td>—</td>
<td>480699</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Shoulder-length</td>
<td>468725</td>
<td>—</td>
<td>486304</td>
<td>486329</td>
</tr>
</tbody>
</table>

**Note:** The Abrasi-Blast Respirator is available with a duo-flow option. Please call MSA Technical Support for complete ordering information.

**Note:** Assemblies can be specially ordered with different options.
Constant Flow Air-Line Respirators are designed to maintain a slight positive pressure of air inside the facepiece, whether the wearer is inhaling or exhaling. This helps to prevent contaminants from seeping in around the facepiece, even if there should be small breaks in the face-to-facepiece seal. The complete respirator assembly is available with Advantage 4000, Ultravue or Ultra Elite Full Facepiece, Comfo Half-Mask Facepiece, or Comfo Welder’s Facepiece; breathing tube; web support belt; and air-flow control valve with quick-disconnect assembly. The Constant Flow Respirator is used in non-IDLH environments. NIOSH approved.

For more complete information, see Bulletin 0112-38.

Complete Assemblies

Choose facepiece, control valve, and quick-disconnect assembly. Comes with breathing tube and a web support belt. For optional PVC belt, see Accessories on page 40.

<table>
<thead>
<tr>
<th>Quick-Disconnect</th>
<th>Advantage 4000 Facepiece</th>
<th>Ultra Elite Facepiece</th>
<th>Ultravue Facepiece</th>
<th>Comfo Facepiece</th>
<th>Welder’s Comfo Facepiece</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Pressure Control Valve (35-40 psig inlet pressure for 8-300 ft of hose)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>10088132</td>
<td>810829</td>
<td>460863</td>
<td>460865</td>
<td>460862</td>
</tr>
<tr>
<td>Foster steel</td>
<td>10088134</td>
<td>810831</td>
<td>461717</td>
<td>480466</td>
<td>480600</td>
</tr>
<tr>
<td>Hansen brass</td>
<td>10088136</td>
<td>†</td>
<td>482582</td>
<td>†</td>
<td>†</td>
</tr>
<tr>
<td>CEJN Locking chrome-plated brass</td>
<td>10088135</td>
<td>810832</td>
<td>480629</td>
<td>480631</td>
<td>480671</td>
</tr>
<tr>
<td>Low-Pressure Control Valve (10-15 psig inlet pressure for 8-50 ft of hose)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>10088107</td>
<td>806775</td>
<td>463300</td>
<td>463302</td>
<td>463281</td>
</tr>
<tr>
<td>Foster steel</td>
<td>10088109</td>
<td>806776</td>
<td>480472</td>
<td>480474</td>
<td>480468</td>
</tr>
<tr>
<td>Hansen brass</td>
<td>10088121</td>
<td>806779</td>
<td>484836</td>
<td>484837</td>
<td>†</td>
</tr>
<tr>
<td>CEJN Locking chrome-plated brass</td>
<td>10088110</td>
<td>806777</td>
<td>480637</td>
<td>480639</td>
<td>480645</td>
</tr>
<tr>
<td>With Cool-only Vortex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>N/A</td>
<td>†</td>
<td>494439</td>
<td>495462</td>
<td>N/A</td>
</tr>
<tr>
<td>With Warm/Cool Vortex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>N/A</td>
<td>†</td>
<td>495785</td>
<td>†</td>
<td>N/A</td>
</tr>
<tr>
<td>Direct-Connect for 3/8” Airline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>N/A</td>
<td>806791</td>
<td>488073</td>
<td>488077</td>
<td>488081</td>
</tr>
<tr>
<td>Foster Steel</td>
<td>N/A</td>
<td>806792</td>
<td>488074</td>
<td>488078</td>
<td>488082</td>
</tr>
<tr>
<td>Cejn Chrome Locking</td>
<td>N/A</td>
<td>806793</td>
<td>488075</td>
<td>488079</td>
<td>488083</td>
</tr>
<tr>
<td>Direct-Connect for 1/2” Airline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snap-Tite aluminum</td>
<td>N/A</td>
<td>806795</td>
<td>488089</td>
<td>488091</td>
<td>488093</td>
</tr>
<tr>
<td>Cejn Chrome Locking</td>
<td>N/A</td>
<td>806796</td>
<td>488090</td>
<td>488092</td>
<td>488094</td>
</tr>
</tbody>
</table>

Note: Facepieces can also be ordered in silicone instead of Hycar rubber. Three sizes of facepieces are available. For belts, MSA Air-Supply Hose and other accessories, see pages 39–40. For separate quick-disconnect plugs and sockets, see page 38. See page 37 for typical Pressure Demand Air-Line and Constant Flow Air-Line Systems setup.

† Available by special order only. High-pressure control valves are also available with the following special order quick-disconnects: Snap-Tite brass or stainless steel, Foster brass, and Hansen brass, or stainless steel. Low-pressure control valves also available with: Snap-Tite brass or stainless steel, Foster brass, Hansen brass, and Duff-Norton brass. Please call your nearest MSA distributor for complete ordering information.
The Versa-Hood Air-Supplied Hood is an inexpensive hood respirator which may be used anywhere a Type-C air-supplied hood is required. This versatile hood is available in two lengths (shoulder- and waist-length) and two materials (Tyvek and Saranex). All Versa-Hood respirators can be used with either a plant air system or personal air compressor.

When head protection is needed, a special three-point Velcro system secures the hood to an MSA V-Gard Cap. The hood suspensions (basic or ratchet versions) are easily adjustable and stable, minimizing the need for a chin strap. The hood is designed to be disposable, thus eliminating the need for cleaning, and a twin-lens system extends the life of the hood. MSA also offers a package of ten replacement lenses. An air-distribution system keeps the lens fog-free. NIOSH certified. For more complete information, see Data Sheet 01-02-01.

**Versa-Hood Assembly and 3/8-inch Hose System with Direct Connectors**

![Diagram of Versa-Hood Assembly and 3/8-inch Hose System with Direct Connectors]

**Hood Assembly Components**
- Male plug, Snap-Tite (D) 66273
- Male plug, Foster 56549
- Hood hose (X-inch NPT) (G) 482702
- Shoulder-length Tyvek hood (H) 482612
- Waist-length Tyvek hood 482610
- Belt holder (F) 482618
- PVC support belt (E) 473902

**Note:** This Versa Hood Assembly would typically require a compressor that puts out between 10 to 12 cfm per person at 10 to 40 psi. Required inlet pressure is based on airline hose length.

**Versa-Hood Assembly and 3/8-inch Hose System with Adjustable Valve Connectors**

![Diagram of Versa-Hood Assembly and 3/8-inch Hose System with Adjustable Valve Connectors]

**Hood Assembly Components**
- Adj. valve connector for 3/8-in hose system, Foster (C) 471814
- Adj. valve connector for 3/8-in hose system, Snap-Tite 460814
- Hood hose w/ coupling nut for adj. valve connector (E) 482703
- Shoulder-length Tyvek hood (H) 482612
- Waist-length Tyvek hood 482610
- PVC support belt (D) 473902

**Vortex Tube Assemblies - for use with plant air systems ONLY**
- Warm/Cool vortex, less Quick-Disconnect (requires 25 cfm at an inlet pressure between 85 to 120 psi based on hose length) 495701
- Cool only vortex, less Quick-Disconnect (requires 15 cfm at an inlet pressure between 75 to 90 psi) 494392
The PortAire® System

The PortAire System holds two standard SCBA air cylinders to provide firefighters, industrial personnel, confined-space workers, and others with a portable, compressed-air source any time an air-line device is required.

Designed for use with MSA pressure-demand supplied-air respirators, including dual-purpose self-contained breathing apparatus (SCBA), the PortAire System consists of a compact air-pressure regulating system housed in a lightweight, yet durable, anodized aluminum frame.

For more complete information, see Bulletin 0114-21.

Air Supply Systems

TransportAire Portable Air-Supply System—Low-Pressure

TransportAire Assembly complete with Cylinder Carrier, Regulator, and Regulator-to-hose Adapter 816693

Option

Low-Pressure Audi-Larm Assembly 85078

TransportAire Portable Air-Supply System—High-Pressure

TransportAire Assembly complete with Cylinder Carrier, Regulator and Regulator-to-hose Adapter, and High-Pressure Audi-Larm 812217

PortAire Portable Air-Supply System

PortAire Portable Air-Supply System with Audi-Larm low-pressure warning device, high-pressure regulator, and carrying frame with air-supply hose* retainer (cylinders and air-line hose not included) 807052

Quick-Fill Kit 807053

Wheeled Cart for PortAire Portable Air-Supply System 10017089

Cylinders

<table>
<thead>
<tr>
<th>Cylinder Type</th>
<th>NIOSH service life rating</th>
<th>Pressure</th>
<th>Weight (empty)</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-30* Carbon-Wrapped</td>
<td>30-minute</td>
<td>2216 psig</td>
<td>8 lb. 0 oz.</td>
<td>807586</td>
</tr>
<tr>
<td>L-30+ Carbon-Wrapped</td>
<td>30-minute</td>
<td>3000 psig</td>
<td>9 lb. 8 oz.</td>
<td>816115</td>
</tr>
<tr>
<td>H-30* Carbon-Wrapped</td>
<td>30-minute</td>
<td>4500 psig</td>
<td>7 lb. 4 oz.</td>
<td>807587</td>
</tr>
<tr>
<td>H-45* Carbon-Wrapped</td>
<td>45-minute</td>
<td>4500 psig</td>
<td>0 lb. 7 oz.</td>
<td>807570</td>
</tr>
<tr>
<td>H-45 Low-Profile* Carbon-Wrapped</td>
<td>45-minute</td>
<td>4500 psig</td>
<td>9 lb. 10 oz.</td>
<td>10035644</td>
</tr>
<tr>
<td>H-60* Carbon-Wrapped</td>
<td>60-minute</td>
<td>4500 psig</td>
<td>11 lb. 12 oz.</td>
<td>807588</td>
</tr>
<tr>
<td>Fiberglass Hoop-Wound</td>
<td>30-minute</td>
<td>2216 psig</td>
<td>13 lb. 0 oz.</td>
<td>469619</td>
</tr>
<tr>
<td>Aluminum</td>
<td>30-minute</td>
<td>2216 psig</td>
<td>18 lb. 0 oz.</td>
<td>809872</td>
</tr>
</tbody>
</table>

All weights shown are approximate

*These cylinders are capable of custom options.

Low-Pressure Configuration

PortAire System with cart

Air Supply Hose*

8-ft Coiled Nylon Hose 491513

*For complete listing of air-supply hose, see page 39. For quick-disconnect fittings, see page 38.
Quick Escape from IDLH Atmospheres

When you need to bail out quickly, the TransAire 5 and TransAire 10 Escape Respirators deliver a consistent air supply at 40 lpm (liters per minute). This standard-flow rate makes for a smooth escape in normal aerobic escape applications. The TransAire 10 Escape Respirator is pressurized to 3000 psig, and the TransAire 5 Escape Respirator is pressurized to 2216 psig. The compact units employ aluminum cylinders that can withstand exposure to temperatures from 0°F to 160°F. Despite their durability, the units are extremely lightweight.

The Custom Air V Escape Respirator is designed with a high flow rate and meets stringent air flow requirements for extremely aerobic escape applications. It provides a five-minute, constant air flow at 72 lpm and is available with either an aluminum or a carbon fiber cylinder.

TransAire and Custom Air V Complete Assemblies

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>TransAire 5 Escape Respirator complete (includes aluminum cylinder, carrier, hood tube, hood assembly)</td>
<td>10008292</td>
</tr>
<tr>
<td>TransAire 10 Escape Respirator complete (includes aluminum cylinder, carrier, hood tube, hood assembly)</td>
<td>10008293</td>
</tr>
<tr>
<td>TransAire 10 Escape Respirator complete (includes fully-wound carbon fiber cylinder, carrier, hood tube, hood assembly)</td>
<td>10083327</td>
</tr>
<tr>
<td>Custom Air V Escape Respirator complete (includes fully-wound carbon fiber cylinder, carrier, hood tube, hood assembly)</td>
<td>484353</td>
</tr>
<tr>
<td>Custom Air V Escape Respirator complete (includes aluminum cylinder, hood tube, hood assembly)</td>
<td>802197</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-unit wall-mounting case</td>
<td>696192</td>
</tr>
<tr>
<td>Two-unit wall-mounting case</td>
<td>696193</td>
</tr>
<tr>
<td>Single unit carrying case, yellow polyethylene, with handle, for all escape respirators</td>
<td>10012530</td>
</tr>
</tbody>
</table>
Typical Air-Line Systems

* 2400 psig Cascade System

**Note:** DO NOT use teflon sealing tape on straight threaded connections with O-ring seals.

**Note:** Cascade cylinders are not normally used with a constant-flow system due to excessive air usage—one large (300 cu ft) cylinder would last one working person only about 15 minutes. Therefore, using cascade cylinders with a pressure-demand system is recommended.

---

### Pressure-Demand System

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
<th>Column No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Tee Block</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>B Air Pigtail</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>C Audi-Larm</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>D Press. Regul.</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td>E1 Female Socket</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>E1 Nipple - part no. 459867</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>E2–3 Manifolds</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>F Male Plug</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>G 3/4&quot; NPT Male x 1/4&quot; NPT Male</td>
<td>38</td>
<td>3</td>
</tr>
<tr>
<td>H MSA Air Hose</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>I Quick Disconnect (Female)</td>
<td>38</td>
<td>Yellow Chart</td>
</tr>
<tr>
<td>J Quick Disconnect (Male)</td>
<td>38</td>
<td>Yellow Chart</td>
</tr>
<tr>
<td>K Female Socket</td>
<td>38</td>
<td>5</td>
</tr>
</tbody>
</table>

### Constant-Flow System

<table>
<thead>
<tr>
<th>Description</th>
<th>Page</th>
<th>Column No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Nipple-DBL male 1/2&quot; NPT - part no. 68833</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2 Filter</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>3 Regulator</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td>4 Bushing-1/2&quot; male NPT x 1/4&quot; female NPT - part no. 625S28</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5A Nipple-DBL male 1/4&quot; NPT - part no. 459867</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5A Female Socket</td>
<td>38</td>
<td>1</td>
</tr>
<tr>
<td>6 Male Plug</td>
<td>38</td>
<td>4</td>
</tr>
<tr>
<td>7 Inlet Gauge</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>8 3/4&quot; NPT Male x 1/4&quot; NPT Male Union Adapter</td>
<td>38</td>
<td>3</td>
</tr>
<tr>
<td>9 MSA Air Hose</td>
<td>39</td>
<td>—</td>
</tr>
<tr>
<td>10 Female Socket</td>
<td>38</td>
<td>5</td>
</tr>
<tr>
<td>11 Quick Disconnect</td>
<td>38</td>
<td>Yellow Chart</td>
</tr>
</tbody>
</table>
Quick-Disconnects for Air-Line Respirators and Air-Supplied Hoods

Quick-disconnect assemblies connect air-supply hoses to the manifold and to the air source. If you want to use a quick-disconnect to interconnect lengths of air supply hose, you must use a locking-type quick disconnect—specifically, the locking quick disconnects listed in the yellow box at the bottom of this page. For more complete information, see the Pocket Guide to Air-Line Systems (Bulletin 0114-14-MC).

### Quick-Disconnects and Adapters

<table>
<thead>
<tr>
<th>QUICK-DISCONNECT TYPE</th>
<th>Interchangeability</th>
<th>Female Socket 1/4&quot; NPT</th>
<th>Male Plug w/Female 1/4&quot; NPT</th>
<th>Union Adapter 1/4&quot; NPT x 3/4&quot; UNF</th>
<th>Male Plug w/Male 1/4&quot; NPT (used when connecting Inlet Pressure Gauge)</th>
<th>Female Socket Assy. (used to connect Air-Supply Hose to Male Plug on Respirator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snap-Tite (AL)</td>
<td>C</td>
<td>66272</td>
<td>66274</td>
<td>69542</td>
<td>66273</td>
<td>455019</td>
</tr>
<tr>
<td>Snap-Tite (SST)</td>
<td>C</td>
<td>629673</td>
<td>629672</td>
<td>808358</td>
<td>629671</td>
<td>471778</td>
</tr>
<tr>
<td>Snap-Tite (BR)</td>
<td>C</td>
<td>630305</td>
<td>630307</td>
<td>69542</td>
<td>630306</td>
<td>471777</td>
</tr>
<tr>
<td>Duff-Norton (BR)</td>
<td>—</td>
<td>630308</td>
<td>630310</td>
<td>69542</td>
<td>630309</td>
<td>471780</td>
</tr>
<tr>
<td>Hansen (SST)</td>
<td>A</td>
<td>628768</td>
<td>628208</td>
<td>808358</td>
<td>473502</td>
<td>471779</td>
</tr>
<tr>
<td>Hansen (BR)</td>
<td>D</td>
<td>630311</td>
<td>630313</td>
<td>69542</td>
<td>630312</td>
<td>471501</td>
</tr>
<tr>
<td>Foster (S)</td>
<td>B</td>
<td>628770</td>
<td>55716</td>
<td>69542</td>
<td>56549</td>
<td>467044</td>
</tr>
<tr>
<td>Foster (SST)</td>
<td>B</td>
<td>636459</td>
<td>636460</td>
<td>808358</td>
<td>—</td>
<td>801016</td>
</tr>
<tr>
<td>Foster (BR)</td>
<td>A</td>
<td>629980</td>
<td>629981</td>
<td>69542</td>
<td>473501</td>
<td>470194</td>
</tr>
<tr>
<td>Schrader (S)</td>
<td>B</td>
<td>See Foster(S)</td>
<td>See Foster(S)</td>
<td>See Foster(S)</td>
<td>See Foster(S)</td>
<td>See Foster(S)</td>
</tr>
<tr>
<td>CEJN Locking (Chrome-Plated—BR)</td>
<td>E 631870</td>
<td>479026</td>
<td>69542</td>
<td>479020</td>
<td>479001</td>
<td></td>
</tr>
<tr>
<td>CEJN Locking (Chrome)</td>
<td>E</td>
<td>—</td>
<td>479026</td>
<td>69542</td>
<td>479020</td>
<td>476956</td>
</tr>
<tr>
<td>Snap-Tite Locking (AL)</td>
<td>F</td>
<td>—</td>
<td>479027</td>
<td>69542</td>
<td>—</td>
<td>479032</td>
</tr>
<tr>
<td>Snap-Tite Locking (SST)</td>
<td>F</td>
<td>—</td>
<td>479028</td>
<td>808358</td>
<td>479022</td>
<td>479033</td>
</tr>
<tr>
<td>Snap-Tite Locking (BR)</td>
<td>F</td>
<td>—</td>
<td>479029</td>
<td>69542</td>
<td>479023</td>
<td>479034</td>
</tr>
<tr>
<td>Foster Locking (SST)</td>
<td>D</td>
<td>636473</td>
<td>637851</td>
<td>808358</td>
<td>—</td>
<td>800805</td>
</tr>
</tbody>
</table>

† Fittings with the same letter code are interchangeable.  *Socket assy consists of socket from column 1 and brass union adapter P/N 69541 (1/4” female x 3/4” npt male). Exception: All SST fittings have SST Union P/N 808360.

### Locking Quick-Disconnects

Locking quick-disconnects must be used to interconnect lengths of MSA Air-Supply Hose. For most systems, you can use up to 12 sections of hose to make up the maximum length.

<table>
<thead>
<tr>
<th>Locking Quick-Disconnect Assembly, Socket and Plug (Chrome)</th>
<th>479009</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEJN Locking Female Quick-Disconnect Socket (Chrome)</td>
<td>476956</td>
</tr>
<tr>
<td>CEJN Locking Male (w/ Male 3/4&quot; NPT) Quick-Disconnect Plug (Chrome)</td>
<td>476955</td>
</tr>
<tr>
<td>Snap-Tite Locking Male (w/ Male 3/4&quot; NPT) Quick-Disconnect Plug (AL)</td>
<td>479001</td>
</tr>
<tr>
<td>Snap-Tite Locking Male (w/ Male 3/4&quot; NPT) Quick-Disconnect Plug (AL)</td>
<td>479015</td>
</tr>
<tr>
<td>Snap-Tite Locking Male (w/ Male 3/4&quot; NPT) Quick-Disconnect Plug (SST)</td>
<td>479015</td>
</tr>
<tr>
<td>Snap-Tite Locking Male (w/ Male 3/4&quot; NPT) Quick-Disconnect Plug (SST)</td>
<td>479015</td>
</tr>
</tbody>
</table>

### A Pocket Guide to Air-Line Systems

This pocket-size booklet shows complete hook-ups of the various MSA air-line systems, both constant flow and pressure demand, from the air source to the respirator connection. Below each illustration, the individual parts of the system are identified by title and part number. The reader is then referred to other pages in the guide for more information about the specific MSA components. To order your copy, request Bulletin 0114-14-MC.

---

[MSA Logo]  
Customer Service Center: 1-800-MSA-2222 • Website: www.MSAnet.com
Air-Line Respirator Accessories

Approved Air-Supply Hose

Air-Supply Hose Temperature Ranges

<table>
<thead>
<tr>
<th>Material</th>
<th>Hose Coupling</th>
<th>100ft</th>
<th>50ft</th>
<th>25ft</th>
<th>15ft</th>
<th>8ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoprene</td>
<td>Brass</td>
<td>455022</td>
<td>455021</td>
<td>455020</td>
<td>481071</td>
<td></td>
</tr>
<tr>
<td>Neoprene</td>
<td>Stainless Steel</td>
<td>481080</td>
<td>481079</td>
<td>481078</td>
<td>481077</td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td>Brass</td>
<td>471513</td>
<td>471512</td>
<td>471511</td>
<td>481051</td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td>Stainless Steel</td>
<td>481060</td>
<td>481059</td>
<td>481058</td>
<td>481057</td>
<td></td>
</tr>
<tr>
<td>Coiled Nylon</td>
<td>Brass</td>
<td>474043</td>
<td>491515*</td>
<td>491514*</td>
<td>491513*</td>
<td></td>
</tr>
</tbody>
</table>

Hose Reel - 50 feet (includes 50 ft of 3/8" neoprene hose P/N 455022) 72444

* Recommended usable length, 4-25 ft.

Cascade System Accessories

The following components are used to assemble a 2400 psi cascade system, which consists of a bank of respirable-air cylinders (user-supplied) that supply a flow of air to dual-purpose air masks, or other pressure-demand air-supplied respirators. Air-supply hoses are listed separately at right.

Cascade System Accessories

Audio-Larm™ Warning Device, low-pressure (CGA 346), 0–3000 psig 85078
Audio-Larm™ Warning Device, high-pressure (CGA 347), 0–5500 psig 492307
Air Coupler Tee – low-pressure CGA 346, 0–3000 psig 68850
Air Pigtail – low-pressure CGA 346, 0–3000 psig 68851
Air Cylinder Pressure Regulator, dual-gauge, 0–3000 psig 68858
High-Pressure Air Cylinder Regulator, dual-gauge, 0–5500 psig 633352
Male Air-supply Hose Adapter for Foster Quick-Disconnects (for PVC hose) 55716
Union Adapter (required to attach male plug) 69542

Breathing Air Distribution System

This system filters, regulates and distributes plant air to as many as four air-line respirator users. A sealed, rugged, stainless steel case prevents contamination of interior components. External controls allow water condensation to be drained from the filter bowl and the manifold pressure to be adjusted. Caution: The system does not remove carbon monoxide. Only Grade D quality air should be used as input.

Breathing Air Distribution System

Breathing Air Distribution System, less quick-disconnects (must be ordered separately) 488113
“Toolbox” Carrying Handle Bar 488118

Portable Air Filter and Regulator ("Black Box")

This system contains an airline filter, pressure regulator, and a 4-outlet manifold in a lightweight aluminum case. For use with inlet pressures up to 125 psig. The outlet pressure is adjustable from 10 to 125 psig. The manifold comes with Snap-Tite (AL) quick-disconnects.

Portable Air Filter and Regulator

Portable Air Filter and Regulator 92760

Manifolds

Required when using multiple (2–4) respirators from a single air source; some of these manifolds have quick-disconnect assemblies with automatic shut-off outlets. Note: Gauge required when greater than 10' between airline point of connection and the regulator.

<table>
<thead>
<tr>
<th>No. of Outlets</th>
<th>Foster Quick-Disconnect</th>
<th>less Quick Disconnect</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>47370</td>
<td>488914</td>
</tr>
<tr>
<td>2</td>
<td>84416</td>
<td>84418</td>
</tr>
</tbody>
</table>

Inlet Pressure Gauge

MSA offers an inlet pressure gauge that enables a user to check pressure at the inlet of the MSA Air-Supply Hose, thereby assuring that air pressure is within the certified range. The gauge is supplied with Quick-Disconnect fittings.

Inlet Pressure Gauge

Inlet Pressure Gauge w/ Snap-Tite fitting 476734
Inlet Pressure Gauge w/ Foster or Schrader fitting 476735
Inlet Pressure Gauge w/ Duff-Norton fitting 476736
Inlet Pressure Gauge w/ Hansen fitting 476737
Inlet Pressure Gauge less Quick-Disconnect** 492586

**See Column 4 plug and Column 3 union on page 38.

Air-line Filter

The MSA air-line filter removes a minimum of 99% of 0.3 micron andlarger particulates, including dusts, mists, fumes, smoke, and petroleum vapors. Caution: It does not remove carbon monoxide. The air-line filter can be used at inlet pressures up to 125 psig.

Air-line Filter

Air-line Filter - with 1/2" NPT female inlet and outlet 81857
Air-line Filter - with 3/4"-16 straight threads 488041
Replacement Filter Kit 484923

Customer Service Center: 1-800-MSA-2222 • Website: www.MSAnet.com
Air-Line Respirator Accessories

Pressure Regulator
MSA’s pressure regulator is used with a plant air compressor system to reduce compressor pressure to the desired operating pressure. The regulator maintains pressure on the outlet side until readjusted for use with inlet pressure of up to 125 psig.

| Pressure Regulator | 66716 |

Cleaning Accessories
Mix MSA Confidence Plus® Germicidal Cleaner with warm water for a germicidal cleaner that is effective against various micro-organisms including immunodeficiency virus Type 1 (HIV-1, associated with AIDS). EPA-approved for use on safety equipment. Personal Safety Equipment Towelettes provide an excellent method for wiping and refreshing respirators, hardhats, and other safety equipment between full cleaning periods.

<table>
<thead>
<tr>
<th>Cleaning Accessories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canister with 220 towelettes, 4-1/4” x 6”</td>
<td>697382</td>
</tr>
<tr>
<td>Box of 100 individually wrapped towelettes, 7-1/4” x 5”</td>
<td>697383</td>
</tr>
<tr>
<td>“The Big Ones,” Box of 50 individually wrapped towelettes, 8” x 11”</td>
<td>10022871</td>
</tr>
<tr>
<td>MSA Confidence Plus Germicidal Cleaner, in 32 oz. bottle</td>
<td>10009971</td>
</tr>
</tbody>
</table>

Spectacle Kits for Full-Facepiece Respirators
For use by workers who must wear corrective lenses, the Spectacle Kit can be easily inserted into the facepiece. The kit includes a wire support, rubber guide, and pair of metal-frame spectacles. Desired adjustment is obtained by moving the spectacles in and out of the rubber guide and up and down the wire support. The Ultra Elite spectacle frame has an S-7 shape and a 48-mm lens size. The Advantage and Ultravue spectacles also have an S-7 shape, but have a 44-mm lens size. Universal Bridge Corrective Lenses can be obtained from local sources. The Spectacle Kit can be used in conjunction with a nospiece. There are two kits for the Ultra Elite facepiece; one uses a side wire support, while the other uses a center support to position the unit (spectacle adjustments are similar).

<table>
<thead>
<tr>
<th>Spectacle Kits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra Elite Spectacle Kit (side wire support)</td>
<td>804638</td>
</tr>
<tr>
<td>Ultra Elite Spectacle Kit (center support)</td>
<td>493581</td>
</tr>
<tr>
<td>Advantage 3000/4000 Spectacle Kit</td>
<td>10029298</td>
</tr>
<tr>
<td>Ultravue Spectacle Kit</td>
<td>454819</td>
</tr>
</tbody>
</table>

Cover Lens
Protects the facepiece lens from scratches during storage, handling, and use.

<table>
<thead>
<tr>
<th>Cover Lens</th>
<th>Advantage 3000/4000</th>
<th>Ultra Elite</th>
<th>Ultravue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear cover lens, pkg of 25</td>
<td>10031542</td>
<td>491500</td>
<td>456975</td>
</tr>
</tbody>
</table>

Welder’s Adapter for Full-Facepiece Respirators
MSA Welder’s Adapters are molded of polycarbonate plastic, which has high resistance to impact, heat, and welding splatter. The clip-on adapter attaches to the facepiece by molded-in clips. The integral adapter is attached by removing the facepiece lens and replacing it with the adapter. A large vision area—4-1/2” x 5-1/4”—provides an unobstructed view of work. The Welder’s Adapter is supplied with an impact-resistant cover lens; the desired filter plate is ordered separately. Rayfoe™ Filter Plates are available in four standard shades—6, 10, 12, 14.

The AutoChange Electronic Welding Lens is for use with MSA Welders Adapters. The solar-powered AutoChange Welding Lens is an automatic-darkening welding filter. The welding lens is in the light state (semi-transparent) before welding and darkens within 0.4 milliseconds after an arc is struck.

The heat-resistant Welder’s Hood is designed to protect the welder’s head, neck and shoulders from welding splatter and sparks. The Kevlar hood has a rubber seal which fits snugly over the Welder’s Adapter. The hood also helps protect cartridges when an air-purifying respirator is used in welding operations.

<table>
<thead>
<tr>
<th>Welder’s Accessories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clip-On Welder’s Adapter for Ultravue and Ultra Twin Facepiece; with cover lens, less filter plate</td>
<td>472859</td>
</tr>
<tr>
<td>Integral Welder’s Adapter for Ultravue and Ultra Twin Facepiece; with cover lens, less filter plate</td>
<td>470786</td>
</tr>
<tr>
<td>Clip-On Welder’s Adapter for Ultra Elite Facepiece; with cover lens, less filter plate</td>
<td>806482</td>
</tr>
<tr>
<td>Clip-On Welder’s Adapter for Advantage 4200 Twin Port Facepiece; with cover lens, less filter plate</td>
<td>10077063</td>
</tr>
<tr>
<td>Clip-On Welder’s Adapter for Advantage 4100 Single Port Facepiece; with cover lens, less filter plate</td>
<td>10065326</td>
</tr>
<tr>
<td>Auto-Change Electronic Welding Lens</td>
<td>10068601</td>
</tr>
<tr>
<td>Polycarbonate Cover Plate (4-1/2 x 5-1/4)</td>
<td>696095</td>
</tr>
<tr>
<td>Polycarbonate Cover Plate (2 x 4-1/4)</td>
<td>4791933</td>
</tr>
<tr>
<td>Cover Lens</td>
<td>696095</td>
</tr>
<tr>
<td>Welder’s Hood, Kevlar</td>
<td>486328</td>
</tr>
</tbody>
</table>

Rayfoe Filter Plates (heat-treated)
Shade 6 Shade 10 Shade 12 Shade 14
38346 38347 38277 38348

Support Belts
MSA PVC belts are easy to decontaminate. If decontamination is not a factor, users may opt for an uncoated nylon web belt.

<table>
<thead>
<tr>
<th>Support Belts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyurethane-coated Nylon Support Belt, black</td>
<td>492827</td>
</tr>
<tr>
<td>PVC Support Belt, clear</td>
<td>473902</td>
</tr>
<tr>
<td>Web Support Belt (uncoated)</td>
<td>9961</td>
</tr>
</tbody>
</table>