



PremAire® Cadet Supplied-Air Respirator

- High-performance supplied-air respirator with mask-mounted regulator that responds quickly to wearer's changing breathing requirements.
- Full facepiece protection with Ultra Elite® or Advantage® 4000 Facepieces
- Can be upgraded to the versatile PremAire System
- NIOSH-approved

The **PremAire® Cadet Supplied-Air Respirator** is a pressure-demand, Type C, supplied-air respirator designed to provide users with a variety of options for many applications. PremAire Cadet Respirators are well-suited for use in the chemical and petrochemical processing industries, municipal utilities, general industry, and asbestos and lead paint abatement.

They also can be used for pharmaceutical applications and for hazardous materials clean-up work in non-IDLH (Immediately Dangerous to Life or Health) environments.

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.

Hose	Fittings	Ultra Elite Facepiece	Advantage 4000 Facepiece
30" IP (intermediate pressure)	None	10054790	10081100
30" IP (intermediate pressure)	Snap-Tite AL	10054793	10081098
42" IP (intermediate pressure)	None	10054791	10081171
42" IP (intermediate pressure)	Snap-Tite AL	10054792	10081099

Facepieces

MSA offers choice of two facepieces, the proven Ultra Elite Facepiece or the new industrial Advantage 4000 Facepiece for the PremAire Cadet Respirator. Choose from three facepiece sizes (small, medium, or large) in either Hycar or silicone rubber. Nosecups are available in two sizes, standard and large.



The **Ultra Elite Facepiece** features:

- A one-way check valve preventing exhaled air from entering the mask-mounted regulator
- A rugged polycarbonate lens with scratch-resistant coating
- A mechanical speaking diaphragm for short-range communications
- Five adjustable rubber straps for exceptional head comfort, security, and safety
- Optional heat-resistant Kevlar net-style head harness

Ultra Elite Facepieces, with nosecup, Push-To-Connect Adapter

	Rubber Head Harness		Speed-ON® Head Harness	
	Hycar	silicone	Hycar	silicone
Small	10037650	10043417	10043419	10043430
Medium	10037648	10043413	10043415	10043416
Large	10037652	10043431	10043433	10043434



The **Advantage 4000 Facepiece** features:

- Available adapters to convert the Advantage Facepiece to a Twin-Cartridge Respirator (using Advantage Cartridges) or an RD40 Facepiece
- A one-way check valve preventing exhaled air from entering the mask-mounted regulator
- A rugged polycarbonate lens with scratch-resistant coating
- Four-point silicone head harness for exceptional comfort and security
- Optional polyester net or Kevlar net head harness

Advantage 4000 Facepieces, with nosecup, Push-To-Connect Adapter

	Rubber Head Harness		Polyester Net Head Harness		Kevlar Net Head Harness	
	Hycar	silicone	Hycar	silicone	Hycar	Silicone
Small	10075911	10075910	10075915	10075914	10108547	10108545
Medium	10075905	10075904	10075909	10075908	10108561	10108549
Large	10075917	10075916	10075921	10075920	10108565	10108563



Mask-mounted regulators for

PremAire Cadet Respirators are pressure-demand, maintaining a slight positive pressure within the facepiece while regulating and reducing the air supply from the NIOSH-approved 60–100 psig range of breathable pressure. This low-profile, high-performance unit quickly responds to users' changing breathing requirements.

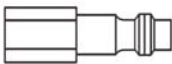
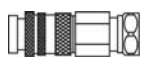
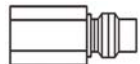



PremAire Cadet Respirator users can choose from three **waist belts**: a standard uncoated nylon web belt if there are no decontamination factors; a polyurethane-coated nylon belt designed for easy decontamination; and a Nomex belt assembly that provides added flame and heat resistance. All three belts accommodate waists up to 48 inches.

Support Belts

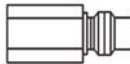
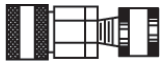


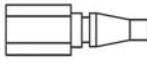



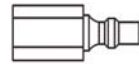
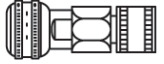
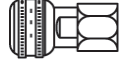

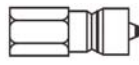
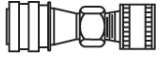
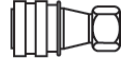


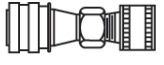
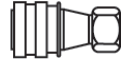

Nylon web support belt	494020
Polyurethane-coated nylon support belt, black	492827
Nomex support belt	802811




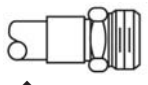
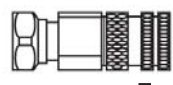
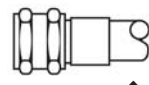
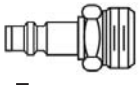
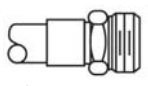
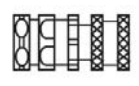
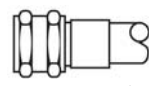
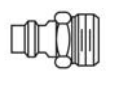
Locking Types	
CEJN — Chrome (CR)	
↓ 1/4" NPT Female  479026 Plug for (C) Quick Disconnect Assembly	3/4" – 16 NF ↓  476956 (C) Socket
SNAP-TITE — Aluminum (AL)	
↓ 1/4" NPT Female  479027 Plug for (AL) Quick Disconnect Assembly	3/4" – 16 NF ↓  479032 (AL) Socket

Quick-disconnect assemblies for PremAire Cadet Respirators, shown below, can be used with PremAire Cadet Respirators. Quick-disconnects are required to connect air-supply hoses to the PremAire Cadet Respirator manifold and to the air source. Additionally, locking-type quick-disconnects can be used to interconnect lengths of MSA air-supply hose. Air-supply hoses can be interconnected up to a maximum length of 300 feet. Up to 12 sections of hose can be used to make up the maximum working length of hose. MSA offers both threaded and locking-type quick disconnects

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

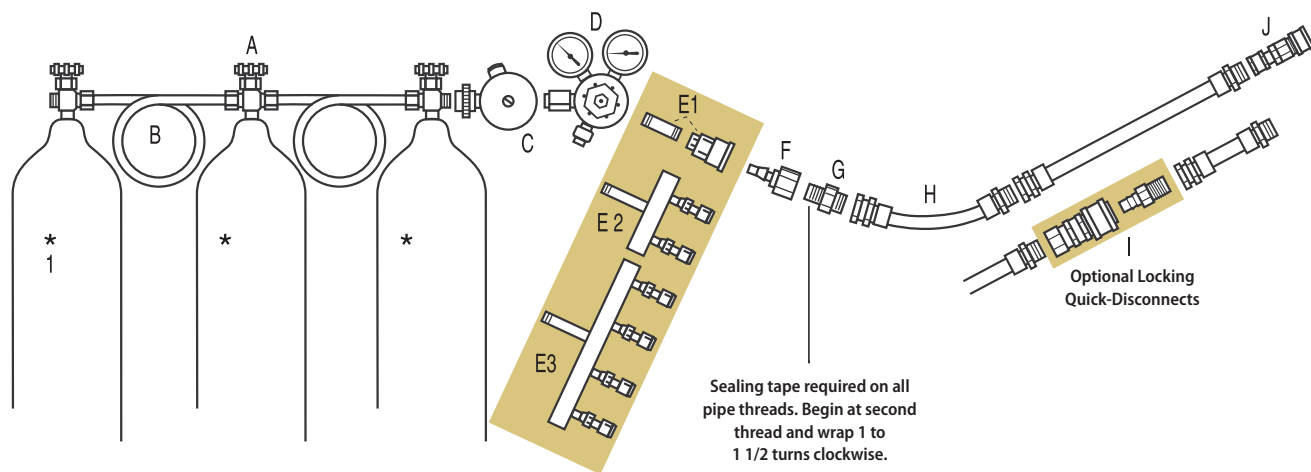
Non-Locking Types			
SNAP-TITE — Aluminum (AL) Brass (BR) Stainless Steel (SST)			
1/4" NPT Female ↓  66274 Plug for (AL) Quick Disconnect Assembly 630307 Plug for (BR) Quick Disconnect Assembly 629672 Plug for (SST) Quick Disconnect Assembly	3/4" – 16 NF ↓  455019 (AL) Socket Assembly 471777 (BR) Socket Assembly 471778 (SST) Socket Assembly	1/4" NPT Female ↓  66272 (AL) Socket 630305 (BR) Socket 629673 (SST) Socket	↓ 1/4" NPT  69541 Air Supply Hose Connector*
FOSTER — Steel (S) Stainless Steel (SST)			
1/4" NPT Female ↓  55716 Plug for (S) Quick Disconnect Assembly 636460 Plug for (SST) Quick Disconnect Assembly	3/4" – 16 NF ↓  467044 (S) Socket Assembly 801016 (SST) Socket Assembly	1/4" NPT Female ↓  628770 (S) Socket 636459 (SST) Socket	↓ 1/4" NPT  69541 Air Supply Hose Connector*
HANSEN — Brass (BR)			
1/4" NPT Female ↓  630313 Plug for (BR) Quick Disconnect Assembly	3/4" – 16 NF ↓  471501 (BR) Socket Assembly	1/4" NPT Female ↓  630311 (BR) Socket	↓ 1/4" NPT  69541 Air Supply Hose Connector
Non-Locking Types — with check valve in plug			
FOSTER — Brass (BR)			
1/4" NPT Female ↓  629981 Plug for (BR) Quick Disconnect Assembly	3/4" – 16 NF ↓  470194 (BR) Socket Assembly	1/4" NPT Female ↓  629980 (BR) Socket	↓ 1/4" NPT  69541 Air Supply Hose Connector
HANSEN — Stainless Steel (SST)			
1/4" NPT Female ↓  628208 Plug for (SST) Quick Disconnect Assembly	3/4" – 16 NF ↓  471779 (SST) Socket Assembly	1/4" NPT Female ↓  628768 (SST) Socket	↓ 1/4" NPT  808360 SS Air Supply Hose Connector

* All SST Fittings have SST Union P/N 808360

Interconnecting Air-Supply Hoses			
Typical Threaded Connector Method. Screw the ends of the air supply hose together.			
Air-Supply Hose ↓	3/4" – 16 UNF ↓	O-Ring ↓	Air-Supply Hose ↓
			
This typical threaded connector method can be used to interconnect sections of approved air-supply hose to the PremAire System.			
CEJN - Chrome. Uses optional locking-type quick disconnects to connect sections of air supply hose.			
Quick Disconnect Socket w/ Check Valve 476956 3/4" – 16 UNF ↓	Quick Disconnect Plug (no Check Valve) 476955 3/4" – 16 UNF ↓	O-Ring ↓	Air-Supply Hose ↓
 ↑ Air-Supply Hose		 ↓ O-Ring	 ↓ Air-Supply Hose ↑
Socket and Plug Assembly 479009			
SNAP-TITE — Aluminum. Uses optional locking-type quick disconnects to connect sections of air supply hose.			
Quick Disconnect Socket w/ Check Valve 479032 3/4" – 16 UNF ↓	Quick Disconnect Plug (no Check Valve) 479015 3/4" – 16 UNF ↓	O-Ring ↓	Air-Supply Hose ↓
 ↑ Air-Supply Hose		 ↓ O-Ring	 ↓ Air-Supply Hose ↑
Socket and Plug Assembly 479010			

MSA Air-Line Accessories for PremAire Cadet Respirators

The following components are used to assemble a bank of respirable-air cylinders to supply air flow to the PremAire Cadet Respirator. The setup consists of cylinders (supplied by the user), which are the air-line respirator's air source; coupler tees and pigtails to join the bank of cylinders together; Audi-Larm™ Audible Alarm that warns when cylinder bank air pressure falls below approximately 400 psig; a dual-gauge air cylinder pressure regulator that reduces the high-pressure from the cylinders to the required inlet pressure range of 70–90 psig; a manifold that allows users to quickly connect and disconnect from the bank of high-pressure cylinders (2- and 4-outlet models available with Foster or Snap-Tite quick-disconnects); approved air-supply hose and fittings.



* 2400 psig Cascade System

Select One Outlet Connection:

- 1* Air cylinder—NOT SUPPLIED BY MSA
- (A) Air tee block—**P/N 68850** or **P/N 10081206** (See below)
- (B) Air pigtail—**P/N 68851** or **P/N 10081205** (See below)
- (C) Audi-Larm Warning Device—**P/N 85078** or **P/N 492307** (See below)
- (D) Air cylinder pressure regulator—**P/N 68858** or **P/N 633352** (See pg. 5)

Outlet Connections:

- (E1) Female socket—P/N varies with type (See pg. 3)
Nipple—1/4" x 1/4" NPT—(needed only w/female socket) **P/N 459867** (See pg. 3)
- (E2) 2-outlet manifold: (See pg. 5)
Foster steel—**P/N 84416**
Snap-Tite aluminum—**P/N 486053**
- (E3) 4-outlet manifold: (See pg. 5)
Foster steel—**P/N 47370**
Snap-Tite aluminum—**P/N 93931**

- (F) Male plug with female 1/4" NPT—P/N varies with type (See pg. 3)
- (G) Union adapter—P/N 69542 (See pg. 3)
- (H) MSA air-supply hose—P/N varies with type (See pg. 5)
- (I) Optional locking quick-disconnect assemblies for interconnecting lengths of MSA air-supply hose
Cejn locking quick-disconnect assembly (chrome)—**P/N 479009** (See pg. 3)
Snap-Tite locking quick-disconnect assembly (aluminum)—**P/N 479010** (See pg. 3)
- (K) Female socket assembly—P/N varies with type (See pg. 3)

Tee blocks and pigtails are used to connect a bank of cylinders together, extending your air supply. The coupler tees, which make a connection between the supply cylinder valve and the pigtail, and the outlet connection, are constructed of brass, while the pigtails, joining the supply cylinders, are made of tubular copper or stainless steel braided hose.

Tee Blocks and Pigtails

Air Tee block (0-3000 psig)	68850
Air Tee block (0-5500 psig)	10081206
Air Pigtail (0-3000 psig)	68851
Air Pigtail (0-5500 psig)	10081205

Air-supply cylinders can be equipped with the **Audi-Larm Warning Device**. This warning device uses a loud, clear bell to signal users when the cylinder air supply has been reduced to a limited service time. It rings when the cylinder pressure reaches approximately 480 psig (high-pressure alarm rings at 1000 psig). It also rings briefly every time the cylinder is pressurized to check for proper alarm operation.



Audi-Larm Warning Device

Audi-Larm Assembly (up to 2216 psig)	85078
High-pressure Audi-Larm Assembly (up to 4500 psig)	492307

PREMAIRE CADET RESPIRATORS



An **air cylinder pressure regulator** is a required accessory when air-line respirators operate from a cylinder. This dual-gauge regulator receives the varying outlet pressure from the cylinder, reduces it, and regulates it to a constant pressure of approximately 80 psig, the optimum pressure for operation of the regulator.

Air Cylinder Pressure Regulator

Air cylinder pressure regulator, dual-gauge, 0–3000 psig	68858
High-pressure air cylinder regulator, dual-gauge, 0–5,500 psig	633352

MSA 3/8" ID **air-supply hose** is available in smooth, reinforced, lightweight polyvinylchloride, chemical-resistant black neoprene, or smooth, coiled nylon. An MSA hose must be used to maintain NIOSH approvals.



Neoprene Hose

Part No.	Length	Fitting
455022	50 ft.	Brass
481080	50 ft.	Stainless steel
455021	25 ft.	Brass
481079	25 ft.	Stainless steel
455020	15 ft.	Brass
481071	8 ft.	Brass

PVC Hose

Part No.	Length	Fitting
484225	100 ft.	Brass
471513	50 ft.	Brass
471512	25 ft.	Brass
471511	15 ft.	Brass
481051	8 ft.	Brass

Coiled Nylon Hose

Part No.	Length	Fitting
474043	50 ft.*	Brass
491515	25 ft.*	Brass
491514	15 ft.*	Brass
491513	8 ft.*	Brass

* Recommended usable length, 4-25ft.

Upgrading to the PremAire System

The PremAire Cadet Respirator provides users with a unique advantage, as it is easily upgraded to the PremAire System, a supplied-air respirator that offers choice of 16 respirator configurations from one unit.

Conversions are made simply by installing the PremAire System manifold assembly to the existing PremAire Cadet Respirator.

Positioned near the wearer's waist, the manifold serves as an air distribution center for the entire system and permits use of all PremAire System options.

Other options available with the PremAire System include an emergency-escape air cylinder for escaping from dangerous atmospheres, dual-supply capability that eliminates the need for long lengths of air-supply hose for enhanced worker mobility, and a vortex tube capability that improves worker comfort by providing temperature control when protective suits are worn in hot or cold environments.



Manifolds are required whenever two to four respirators are connected to a single air source. MSA manifolds have quick-disconnect assemblies with automatic shut-off outlets.

Manifolds

Four-outlet manifold assembly with Foster Quick-Disconnects	47370
Two-outlet manifold assembly with Foster Quick-Disconnects	84416
Four-outlet manifold assembly with Snap-Tite Quick-Disconnects	93931
Two-outlet manifold assembly with Snap-Tite Quick-Disconnects	486053





Welder's adapters are used for eye protection in welding applications where respiratory protection is required, and are easily installed over a lens. Clip-on style adapter can be easily removed, whereas the integral adapter model is used in place of the facepiece lens. Both models are made of polycarbonate and feature a flip-up lens with large 4-1/2" x 5-1/4" (11.4 cm x 13.3 cm) vision area.

Welder's Accessories

Clip-On Welder's Adapter for Ultra Elite Facepiece; with cover lens, less filter plate	806482
Clip-On Welder's Adapter for Advantage 4100 Single Port Facepiece; with cover lens, less filter plate	10065326
Auto-Change Electronic Welding Lens	10068601
Polycarbonate cover plate (4-1/2 x 5-1/4)	696095
Cover lens	88379
Welder's hood, Kevlar	486328

Lens covers are available in a variety of types and provide a convenient way to add a protective layer. Self-adhesive covers are easily installed and removed.

Lens Covers

Clear lens cover, pkg of 25, for Advantage 4000 Facepiece	10031542
Clear lens cover, pkg of 25, for Ultra Elite Facepiece	491500
Smoke lens cover, pkg of 25, for Advantage 4000 Facepiece	10031543
Smoke lens cover, pkg of 25, for Ultra Elite Facepiece	805456



Spectacle kits, used by workers who must wear corrective lenses, are easily inserted into Ultra Elite or Advantage 4000 Facepieces. Kits includes wire support, rubber guide, and one pair of metal frame spectacles. One size of spectacle frame is used (S-7 shape, 44-mm lens size) with universal bridge corrective lenses that can be obtained from local sources. The spectacle kit may be worn in conjunction with a nosecup.

Spectacle Kits

Ultra Elite Spectacle Kit (side wire support)	804638
Ultra Elite Spectacle Kit (center support)	493581
Advantage 3000/4000 Spectacle Kit	10029298

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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Approvals and Standards

PremAire Cadet Respirators have received National Institute for Occupational Safety and Health (NIOSH) certification for use in atmospheres not immediately dangerous to life or health (non-IDLH).*

Units are approved for use with an operating inlet pressure of 60–100 psig, and only when used with MSA air-supply hose. PremAire Cadet Respirators require a source of compressed air conforming to at least Grade D Compressed Gas Association Inc., Commodity Specification for Air, G-7.1, which is now ANSI (American National Standards Institute) Z86.1-1973.

*Not immediately dangerous to life or health is defined in 42 CFR Part 84 as any hazardous atmosphere which may produce physical discomfort immediately, chronic poisoning after repeated exposure, or acute adverse physiological symptoms after prolonged exposure.

Online Response® Respirator Selector

Available on-line at:
www.MSAnet.com/response

- Helps identify the correct respirator for your application
- Offers the broadest range of respiratory protection available
- Recommends respirators for more than 700 chemical hazards
- Lists nearly 3,000 chemical synonyms
- Lists up to 27 categories of respirators, with MUCs

