

MSA Air-Line Respirators

Key Products



*Because every life has a **purpose...***



MSA Air-Line Systems

Type C Supplied-Air Respirators, commonly called air-line respirators, provide long-duration respiratory protection. Systems generally consist of a full- or half-mask facepiece connected by air-supply hose to an air source. When connected, respirators deliver respirable air to users. This guide is designed to aid in understanding specific pressure-demand and constant flow air-line systems from air source to respirator. Complete air-line kits consisting of frequently-ordered systems for ease of ordering are listed as well.

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 users can escape without wearing respirators, unless respirators are equipped with escape air cylinders. “Not immediately dangerous to life and health” means any hazardous atmosphere that 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)).

Pressure-Demand vs. Constant Flow Respirators

These systems differ in how supplied air is delivered to users. Pressure-demand systems deliver air to the respirator facepiece only as users require it; thus, pressure-demand devices afford greater breathing efficiency. Constant flow systems provide continuous air flow to the respirator facepiece and are generally used only with compressors for virtually unlimited air supply.

Pressure-Demand Air-line Respirators:

- Maintain slight positive facepiece air pressure, helping to prevent contaminant entry.
- Require air supply from uncontaminated compressed-air sources conforming to at least Grade D of ANSI Standard Z86.1.
- Typically use large compressed air cylinders singly or cylinder cascade systems consisting of several air cylinders connected in a bank via pigtailed.

Constant Flow Air-line Respirators:

- Maintain slight positive facepiece air pressure, helping to prevent contaminant entry.
- Require air supply from uncontaminated compressed-air sources conforming to at least Grade D of ANSI Standard Z86.1.
- Maintain air flow at all times, rather than only on demand.
- Typically use compressors as their air source, as constant flow systems quickly exhaust air from compressed air cylinders.
- Are offered in two styles, tight-fitting facepiece or loose-fitting hood/helmet.

MSA Pressure-Demand Respirators

PremAire® Cadet Respirator

PremAire Cadet Respirator pressure-demand, Type-C, NIOSH-approved, supplied-air respirator with mask-mounted regulator responds quickly to wearers' changing breathing requirements. Key applications include chemical, industrial, metals, power generation, water and wastewater treatment, public works, maintenance, and food processing.

- Basic air-supplied device is easily upgradeable to versatile PremAire System.
- May be used in non-IDLH (Immediately Dangerous to Life or Health) environments only.

Complete Assemblies

All listed configurations include Ultra Elite® Facepiece (medium size, Hycar™ Rubber, rubber head harness) or Advantage® 4000 Facepiece (medium size, Hycar Rubber, 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

Note: see page 8 to order quick-disconnects for use with PremAire and PremAire Cadet Systems (column 2 for plug and column 5 for socket assembly).

PremAire Cadet Kits

PremAire Cadet Respirator Kits include PremAire Cadet Respirator with Advantage 4000 Facepiece (medium size, Hycar Rubber, polyester net head harness) with Push-To-Connect Firehawk MMR, nylon belt assembly, listed quick-disconnect for connecting respirator to air-supply hose, neoprene air-supply hose 50-ft section complete with corresponding plug to attach air-supply hose to air source.

Description	Part Number
PremAire Cadet Air-line Respirator with Foster steel quick-disconnects, neoprene air-supply hose 50-ft section with Foster steel plug	10108493
PremAire Cadet Air-line Respirator with Snap-Tite aluminum quick-disconnects, neoprene air-supply hose 50-ft section with Snap-Tite aluminum steel plug	10108594

PremAire Cadet Air-Line Respirator with TransportAire™ Portable Air-Supply Assembly

Description	Part Number
Kit includes PremAire Cadet Respirator with Advantage 4000 Facepiece (medium size, Hycar Rubber, polyester net head harness) with Push-To-Connect Firehawk MMR and nylon belt assembly, Snap-Tite quick-disconnect and low pressure TransportAire Portable Air Supply with 30-minute carbon fiber cylinder, and 8-ft coiled nylon air-supply hose.	10108495



Low-pressure configuration

Air-Line Respirators

MSA Pressure-Demand Respirators

PremAire Cadet Escape Respirator

The PremAire Cadet Escape Respirator, Combination Supplied-Air Respirator with Escape Cylinder offers streamlined design for size, simplicity, comfort, and economy. Key applications include chemical, refinery, oil and gas drilling, maintenance, confined space entry, turnarounds, storage facilities, public works, and food processing.

- Low-profile escape cylinders may be worn on right or left hip.
- Choice of Ultra Elite Pressure-Demand Facepiece or Advantage 4000 Facepiece with APR conversion capability.
- Firehawk MMR Regulator offers choice of Push-To-Connect (PTC) or Slide-To-Connect (STC) attachments.



Harness	Facepiece	Cylinder	Disconnect	Part Number
VALUE MODELS				
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, rubber head harness	5-minute aluminum	Hansen	10092031
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, rubber head harness	5-minute aluminum	Snap-Tite	10092033
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, net head harness	5-minute aluminum	Hansen	10092034
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, net head harness	10-minute aluminum	Snap-Tite	10092035
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, net head harness	10-minute aluminum	Hansen	10092036
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, net head harness	15-minute carbon	Snap-Tite	10092037
Nylon strap carrier	Advantage 4000, Medium, Hycar Rubber, net head harness	15-minute carbon	Hansen	10092038

The PremAire Cadet Escape is available in other configurations; for further information; please see bulletin 0103-12 or the MSA Safety Equipment catalog.

PremAire Cadet Escape Kits

PremAire Cadet Escape Respirator Kits include PremAire Cadet Escape Respirator with Advantage 4000 Facepiece (medium size, Hycar Rubber, polyester net head harness) with Push-To-Connect Firehawk MMR and nylon harness, aluminum cylinder, and listed quick-disconnect for connecting respirator to air-supply hose, neoprene air-supply hose 50-ft section complete with corresponding plug to attach air-supply hose to air source.

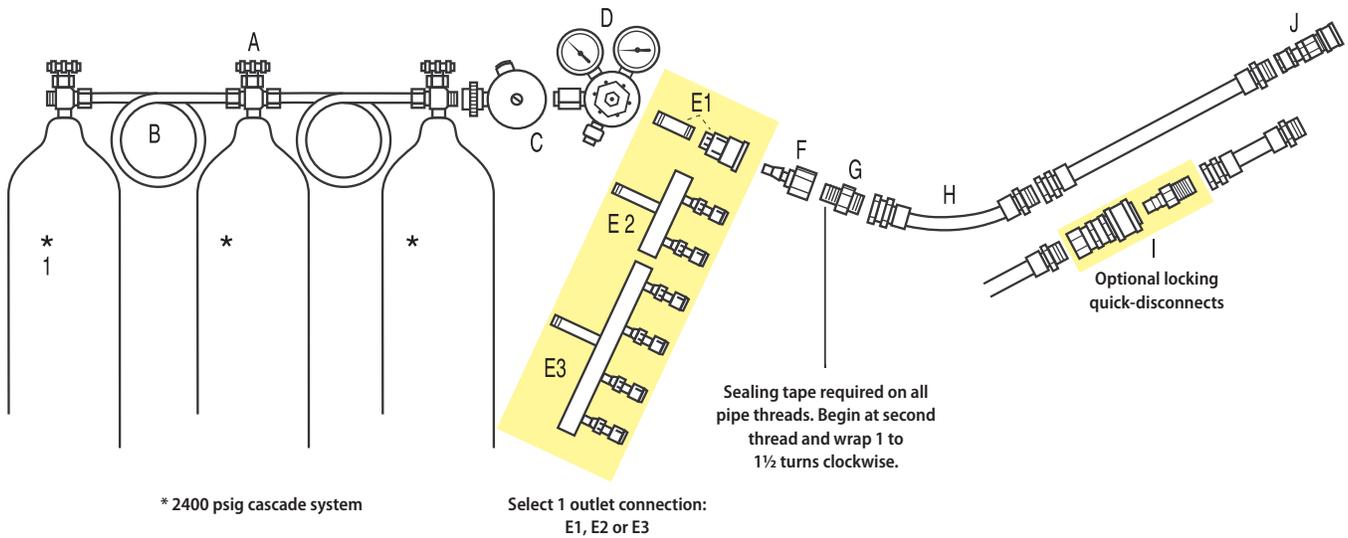
Description	Part Number
PremAire Cadet Escape Air-line Respirator, 5-minute aluminum egress cylinder, Hansen brass quick-disconnects, 50-ft section of neoprene air-supply hose with Hansen brass plug.	10108496
PremAire Cadet Escape Air-Line Respirator, 10-minute aluminum egress cylinder, Hansen brass quick-disconnects, 50-ft section of neoprene air-supply hose with Hansen brass plug.	10108592

Additional MSA PremAire Air-Line Respirator Systems:

Dual-supply (to eliminate additional hose lengths)



Pressure-Demand System



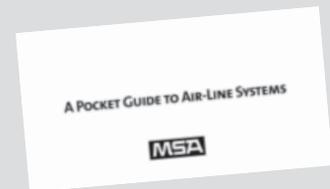
Note: DO NOT use teflon sealing tape on straight threaded connections with O-ring seals.

Note: Cascade cylinders are not normally used with constant flow systems due to excessive air usage—1 large (300-cu-ft) cylinder would last 1 working person only about 15 minutes. Therefore, using cascade cylinders with pressure-demand systems is recommended.

Pressure Demand System	
1*	Air cylinder — NOT SUPPLIED BY MSA
A	Air tee block — P/N 68850 or P/N 10081206 (see page 8)
B	Air pigtail — P/N 68851 or P/N 10081205 (see page 8)
C	Audi-Larm™ Audible Alarm warning device — P/N 85078 or P/N 492307 (see page 8)
D	Air-cylinder pressure regulator — P/N 68858 or P/N 633352 (see page 8)
OUTLET CONNECTIONS:	
E1	Female socket—P/N varies with type (see page 8) Nipple—W" x W" NPT—(needed only w/female socket) P/N 459867
E2	2-outlet manifold: Foster steel P/N 84416 Snap-Tite aluminum P/N 486053 (see page 8)
E3	4-outlet manifold: Foster steel P/N 47370 Snap-Tite aluminum P/N 93931 (see page 8)
F	Male plug with female W" NPT—P/N varies with type (see page 8)
G	Union adapter—(see page 8)
H	MSA air-supply hose—P/N varies with type (see page 8)
I	Optional locking quick-disconnect assemblies for interconnecting lengths of MSA air-supply hose CEJN locking quick-disconnect assembly (chrome) P/N 479009 Snap-Tite locking quick-disconnect assembly (aluminum) P/N 479010
J	Female socket assembly—P/N varies with type (see page 8)

A Pocket Guide to Air-Line Systems

This pocket-size booklet illustrates complete hookups of various MSA air-line systems, both constant flow and pressure-demand, from air source to respirator connection. Below each illustration, individual system parts are identified by title and part number. Readers are then referred to following pages for more information concerning specific MSA components. Visit www.MSAafety.com to download your copy of A Pocket Guide to Air-Line Systems, bulletin 0114-14-MC.



Air-Line Respirators

MSA Constant Flow Respirators

Complete respirator assemblies are available with Advantage 4000, Ultravue® or Ultra Elite Full-Facepieces, Comfo® Half-Mask or Comfo Welder's Facepiece, breathing tube, web support belt, and air-flow control valve with quick-disconnect assembly. Key applications include chemical, industrial, metals, power generation, maintenance, and pharmaceutical. NIOSH-approved.



Constant Flow Air-Line Respirator with Advantage 4000 Facepiece



Constant Flow Air-Line Respirator with Ultra Elite Facepiece



Constant Flow Air-Line Respirator with Ultravue Facepiece



Constant Flow Air-Line Respirator with Comfo Facepiece



Constant Flow Air-Line Respirator with Welder's Comfo Facepiece

Complete Assemblies

Choose facepiece, control valve and quick-disconnect assembly. Includes breathing tube and web support belt.

Quick-Disconnect	Advantage 4000 Facepiece	Ultra Elite Facepiece	Ultravue Facepiece	Comfo Facepiece	Welder's Comfo Facepiece
HIGH PRESSURE CONTROL VALVE (35-40 PSIG INLET PRESSURE FOR 8-300-FT OF HOSE)					
Snap-Tite aluminum	10088132	810829	460863	460865	460862
Foster steel	10088134	810831	461717	480466	480600
Hansen brass	10088136	†	486258	†	†
CEJN locking chrome-plated brass	10088135	810832	480629	480631	480671
LOW PRESSURE CONTROL VALVE (10-15 PSIG INLET PRESSURE FOR 8-50-FT OF HOSE)					
Snap-Tite aluminum	10088107	806775	463300	463302	463281
Foster steel	10088109	806776	480472	480474	480468
Hansen brass	10088121	806779	484836	484837	†
CEJN locking chrome-plated brass	10088110	806777	480637	480639	480645

Note: facepieces can also be ordered in silicone instead of Hycar Rubber. Three facepiece sizes are available. For belts, MSA air-supply hose and other accessories, see page 8. For separate quick-disconnect plugs and sockets, see page 8. See page 7 for typical constant flow air-line systems setup.

† Available by special order only. High pressure control valves are available with these special order quick-disconnects: Snap-Tite brass or stainless steel, Foster brass, Hansen brass, or stainless steel. Low pressure control valves are also available with Snap-Tite brass or stainless steel, Foster brass, and Hansen brass. Please contact your nearest MSA distributor for complete ordering information.

Constant Flow Air-Line Respirator Kits

Constant Flow Air-Line Respirator Kits include constant flow air-line respirator with Advantage 4000 Facepiece (medium size, Hycar Rubber, polyester net head harness) with high or low pressure flow control valve, breathing tube and nylon belt assembly, listed quick-disconnect for connecting respirator to air-supply hose, 50-ft neoprene air-supply hose section complete with corresponding plug to attach air-supply hose to air source.

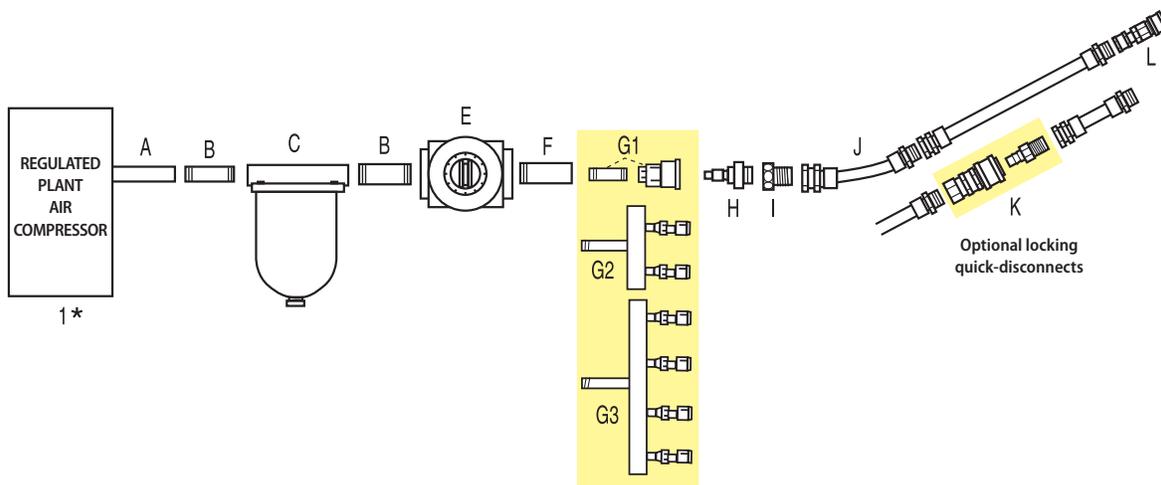
Description	Part Number
Constant flow air-line respirator, low pressure control valve, Foster steel quick-disconnects, 50-ft section neoprene air-supply hose with Foster steel plug.	10108494
Constant flow air-line respirator, high pressure control valve, Foster steel quick-disconnects, 50-ft section neoprene air-supply hose with Foster steel plug.	10108593

Constant Flow Air-Line Kits

Additional MSA constant flow respirators with loose-fitting hoods include Versa-Hood™ Air-Supplied Hood P/N 484690, Versa-Hood with Foster plug. Additional MSA constant flow respirators with tight-fitting facepieces include:

- Constant Flow Duo-Twin Air-Line Respirator, complete with Foster plug and socket - P/N 484087.
- Constant Flow Duo-Flo Air-Line Respirator, complete with Advantage 4000 Facepiece - P/N 10091952.
- Abrasi-Blast Supplied-Air Respirator, models with waist-length Hypalon hood.
 - High pressure - P/N 468718
 - Abrasi-Blast Respirator with Duo-Flo Respirator - P/N 478116

Constant Flow System



Select 1 outlet connection:
G1, G2 or G3

Constant-Flow System	
1*	Plant air compressor — NOT SUPPLIED BY MSA
A	Outlet fitting for system—varies with system
B	Nipple (1/2 x 1/2 x 1 1/2 NPT)—P/N 68833
C	Air-line filter—P/N 81857
E	Pressure regulator—P/N 66716
OUTLET CONNECTIONS:	
F	Bushing (1/2" M x 1/4" F)—P/N 625528
G1	Female socket—P/N varies with type (see page 6—column 1) Nipple—1/4" x 1/4" NPT—(needed only w/female socket) P/N 459867
G2	2-outlet manifold: Foster steel P/N 84416 Snap-Tite aluminum P/N 486053 (see page 8)
H	Male plug with male 1/4" NPT (see page 8—column 4)
I	Union adapter (see page 8—column 3)
J	MSA air-supply hose—P/N varies with type (see page 8)
K	Optional locking quick-disconnect assemblies for interconnecting lengths of MSA air-supply hose CEJN locking quick-disconnect assembly (chrome) P/N 479009 Snap-Tite locking quick-disconnect assembly (aluminum) P/N 479010
L	Female socket assembly—P/N varies with type (see page 8—column 5)

MSA Air-Line Fittings, Hoses, Cascade Systems, and Accessories

For complete listings of MSA air-line respirators, air sources, accessories, and system configurations, please see **A Pocket Guide to Air-Line Systems**, MSA bulletin #0114-14.

Cascade System Accessories	
Audi-Larm Audible Alarm, low pressure CGA 346, 0-3000 psig	85078
Audi-Larm Audible Alarm, high pressure CGA 347, 0-5500 psig	492307
Air coupler tee - low pressure CGA 346, 0-3000 psig	68850
Air coupler tee - high pressure CGA 347, 0-5500 psig	10081206
Air pigtail - low pressure CGA 346, 0-3000 psig	68851
Air pigtail - high pressure CGA 347, 0-5500 psig	10081205
Air cylinder pressure regulator, dual-gauge, 0-3000 psig	68858
High pressure air cylinder regulator, dual-gauge, 0-5500 psig	633352
2-outlet manifold with Foster quick-disconnects	84416
2-outlet manifold with Snap-Tite quick-disconnects	486053
4-outlet manifold with Foster quick-disconnects	47370
4-outlet manifold with Snap-Tite quick-disconnects	93931

Air-Supply Hose						
MATERIAL	HOSE COUPLING	100FT	50FT	25FT	15FT	8FT
Neoprene	Brass	—	455022	455021	455020	481071
Neoprene	Stainless steel	—	481080	481079	481078	481077
PVC	Brass	484225	471513	471512	471511	481051
PVC	Stainless steel	—	481060	481059	481058	481057
Coiled nylon	Brass	—	474043*	491515*	491514*	491513*

* Recommended usable length, 4-25-ft.



QUICK-DISCONNECT TYPE	Interchangeability†	1	2	3	4	5*
		Female socket 1/4" NPT	Male plug w/female 1/4" NPT	Union adapter 1/4" NPT x 3/4" UNF	Male plug w/male 1/4" NPT (used when connecting inlet pressure gauge)	Female socket assy. (used to connect air-supply hose to male plug on respirator)
SNAP-TITE (AL)	C	66272	66274	69542	66273	455019
SNAP-TITE (SST)	C	629673	629672	808358	629671	471778
SNAP-TITE (BR)	C	630305	630307	69542	630306	471777
HANSEN (SST)	A	628768	628208	808358	473502	471779
HANSEN (BR)	D	630311	630313	69542	630312	471501
FOSTER (S)	B	628770	55716	69542	56549	467044
FOSTER (SST)	B	636459	636460	808358	—	801016
FOSTER (BR)	A	629980	629981	69542	473501	470194
SCHRADER (S)	B	SEE FOSTER(S)	SEE FOSTER(S)	SEE FOSTER(S)	SEE FOSTER(S)	SEE FOSTER(S)
CEJN LOCKING (CHROME-PLATED—BR)	E	631870	479026	69542	479020	479001
SNAP-TITE LOCKING (AL)	F	—	479027	69542	—	479032
SNAP-TITE LOCKING (SST)	F	—	479028	808358	479022	479033
SNAP-TITE LOCKING (BR)	F	—	479029	69542	479023	479034
FOSTER LOCKING (SST)	D	636473	637851	808358	—	800805

AL=aluminum, SST=stainless steel, S=steel, BR=brass

† Fittings with the same letter code are interchangeable.

* Socket assembly consists of socket from column 1 and brass union adapter P/N 69541 (3/4" female x 1/4" npt male). Exception: all SST fittings have SST union P/N 808360.

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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