MSA Safety Equipment Catalog

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WE KNOW WHAT'S AT STAKE.

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Find product & tradeshow information and view trending MSA & Safety Industry news.

Website

Visit MSAsafety.com for product info, part numbers, literature, approvals, and more. Leverage the power of our website by using our product simulators, configurators, product demo videos, etc.

Social Media

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Facebook—Fire Service	facebook.com/msasafetyfire
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Instagram	instagram.com/msasafety
Instagram—Fire Service	instagram.com/msasafetyfire_na

YouTube

View our extensive 200+ video library and link to our product demo, product maintenance, "How it's Made", and customer testimonial videos.

youtube.com/@msanorthamerica424

Blogs

Read MSA Safety's blogs for information about the latest safety innovations and best practices in the industry. Find valuable insights and tips to help enhance workplace safety and compliance.

US	us.msasafety.com/blogs
Canada	ca.msasafety.com/blogs

PPE Training & Safety Education

MSA has helped protect our customers for over 100 years in all facets of personal protective equipment and services. With this in mind, we recognize that education and training play an integral part as well. We offer:

- **Virtual Led Training (VLT) —** a customized, real-time learning experience conducted by an MSA Instructor via video conferencing.
- **MSA-U® Online Training —** get access to over 150 courses day or night—for free.
- **In-Person Training at One of our State-of-the-Art MSA Training Centers —** allows us to teach students how to safely select, inspect and use PPE in true-to-life simulations.
- **On-Site Safety Training —** we can help you reduce lost time and liability through on-site documented competent equipment inspections.
- **On-Site Survey, Hazard Assessment, & Audit —** an MSA trained professional will conduct a walkthrough of your facility and provide a comprehensive written report documenting risks and recommendations.

For more information, visit https://us.msasafety.com/training

Questions?
Email us at us.cs@msasafety.com

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Award-Winning Customer Service

Every customer wants it.
Every good business has it.

Our multiple-award-winning Customer Service Center proves that MSA strives for continuous improvement in customer satisfaction. Every year brings positive changes: better-trained associates with more advanced processes, resulting in improved service and faster solutions. Each Customer Service Associate's computer workstation can simultaneously handle a variety of applications, and an automated call distributor monitors and routes call flow to ensure peak performance. Customer Service continues to look for ways to improve its relationship with customers via surveys. Our goal is to provide exceptional customer service, which in turn creates customer loyalty.

The MSA Customer Service Center provides:

- **Pre-Sales Support**
  - Prepare quotations/bids
  - Product support and recommendations

- **Sales Order Support**
  - Process purchase orders
  - Provide price and availability information
  - Order status/delivery information

- **Post-Sales Support**
  - Product support—use and troubleshooting
  - Shipment tracking
  - Order/shipment issue resolution
  - Repair service notifications—return authorizations
  - Credit and corrected invoice requests

Customer Service Center Phone Numbers:

Toll-free	1-800-MSA-2222
Toll-free Fire Service	1-877-672-3473 (FIRE)
Toll-free FGFD	1-800-672-4678
After-hours Emergencies	1-800-MSA-5555

Customer Service Center Emails:

U. S. Customer Service	us.cs@msasafety.com
Canada	canada.cs@msasafety.com
Fire Service	fire.cs@msasafety.com
FGFD	customer.service@msasafety.com
General	info.us@msasafety.com

Order Submission:

U. S. Customer Service	placeorder@msasafety.com
Canada	caorders@msasafety.com
Fire Service	fireorder@msasafety.com
FGFD	perminstorder@msasafety.com

Mailing Address:

Customer Service Center
MSA Corporate Center
1000 Cranberry Woods Drive
Cranberry Twp, PA 16066

N. A. Export Customer Service

Our extensive network of distributors, representatives and MSA-affiliate companies covers most major cities worldwide. Highly-trained international customer service associates guide your export orders from placement to delivery. MSA uses all major air and ocean freight forwarders and courier services due to their ability to consolidate multiple orders and minimize freight expenses. Associates understand international inspections, certifications, licensing and other customs issues necessary for successful importation.

To contact N. A. Export Customer Service:

Toll-free in the U.S.	1-800-MSA-7777
Email	Lamzonecs@MSAsafety.com

Respiratory Protection

Air-Purifying Respirators
Powered Air-Purifying Respirators
Air-Line Respirators
Self-Contained Breathing Apparatus

Advantage® 420 Half-Mask Respirator

- UniBond over-mold facepiece, AnthroCurve™ face seal, and low-profile design ensures excellent comfort and fit
- Easily switches between lock-down and drop-down mode
- Built-in moisture release chin cup hole, and extra-wide head and neck straps
- Designed for easy integration with other personal protective equipment such as safety glasses and welding shields
- Latex-free
- *Applications include:* asbestos abatement, painting, welding, sanding & grinding

For more information, please see MSA bulletin 1012-57-MC.

	Small	Medium	Large	
ADVANTAGE 420 RESPIRATOR	10102182	10102183	10102184	Advantage 420 Assembly (includes facepiece, head cradle, elastic straps, buckle set, yoke with lever, two (2) inhalation valves, one (1) exhalation valve)

Easy 3-Step Donning Process

Advantage® 900 Half-Mask Respirator

- Innovative and secure respiratory solution for essential workers, first responders, and healthcare workers.
- With the elimination of an exhalation valve, the Advantage 900 Respirator achieves source control by filtering exhaled breath to help reduce the likelihood of contaminating the surrounding area.
- Cost-effective and eco-friendly alternative to disposable filtering facepiece respirators.
- Enables user protection up to P100 level.
- Mechanical speaking diaphragm helps to improve communication between the wearer and others.

For more information, please see MSA bulletin 1012-66-MC.

	Small	Medium	Large	
ADVANTAGE 900 FACEPIECES	10218527	10218528	10218529	Advantage 900 Respirator

NOTE: *Advantage 900 is approved for use with Advantage style particulate filter cartridges only. It is not approved for use with flexi, chemical or combination cartridges.*

Advantage® 200 LS Half-Mask Respirator

- Lightweight, cost-efficient
- Thermoplastic rubber increases softness and decreases weight
- Patented MultiFlex® System equalizes pressure on the face-seal area, ensuring the respirator doesn›t collapse during wear
- AnthroCurve face seal conforms to each user's face
- *Applications include:* asbestos abatement, painting, welding, sanding & grinding

For more information, please see MSA bulletin 1012-42-MC.

	Small	Medium	Large	
ADVANTAGE 200 LS FACEPIECES	815696	815692	815700	Advantage 200 LS Respirator, with **2-piece** neckstrap
	815448	815444	815452	Advantage 200 LS Respirator, with **single** neckstrap

Advantage® 290 Half-Mask Respirator

- First NIOSH-approved half-mask respirator *without exhalation valve* to achieve source control and minimize risk of introducing infectious agents via exhaled breath.
- Cost-effective and eco-friendly alternative over filtering facepiece respirators such as N95.
- The Advantage 290 is approved for use with Advantage style particulate filter cartridges only. It is not approved for use with flexi, chemical or combination cartridges.

For more information, please see MSA bulletin 1012-60-MC.

	Small	Medium	Large	
ADVANTAGE 290 FACEPIECES	10217165	10217166	10217167	Advantage 200 LS Respirator, with **2-piece** neckstrap

Comfo® Classic Half-Mask Respirator

- SoftFeel® rubber and silicone facepieces enhance softness, increasing wearer comfort
- Face seal design provides secure, comfortable fit
- Color-coded sizing system makes sorting and identification easy

For more information, please see MSA bulletin 1012-02-MC.

	Small	Medium	Large	
COMFO CLASSIC FACEPIECES	808075	808074	808076	Comfo Classic Facepiece, SoftFeel hycar
	808072	808071	808073	Comfo Classic Facepiece, SoftFeel silicone

▶ See page 8 for Advantage filters and cartridges and page 9 for flexible pad-style filters.

Advantage® 4000 Series Full-Facepiece Respirators

Advantage 4100 Facepiece, single port, w/net head harness

Advantage 4200 Facepiece w/polyester net head harness & GMA/OV cartridges

Welder's Adapter for Advantage 4200 Respirator

- Both twin-port and single-port facepieces are compatible with several MSA respirator models, including air-purifying respirators, supplied-air respirators, and powered air-purifying respirators
- Standard nosecup reduces lens fogging
- Components lock into place in seconds for quick, convenient performance

For more information, please see MSA bulletin 1012-42-MC.

	Small	Medium	Large	
ADVANTAGE 4200 FACEPIECES **Twin-Port Hycar**	10083785	10083781	10083789	Advantage 4200 Facepiece, with **polyester net** head harness, hycar
	10083787	10083783	10083791	Advantage 4200 Facepiece, with **rubber** head harness, hycar
	10108570	10108568	10108572	Advantage 4200 Facepiece, with **Kevlar net** head harness, hycar
ADVANTAGE 4200 FACEPIECES **Twin-Port Silicone**	10083784	10083760	10083788	Advantage 4200 Facepiece, with **polyester net** head harness, silicone
	10083786	10083782	10083790	Advantage 4200 Facepiece, with **rubber** head harness, silicone
	10108569	10108567	10108571	Advantage 4200 Facepiece, with **Kevlar net** head harness, silicone
ADVANTAGE 4100 FACEPIECES* **Single-Port Hycar**	10083797	10083793	10083801	Advantage 4100 Facepiece, with **polyester net** head harness, hycar
	10083799	10083795	10083803	Advantage 4100 Facepiece, with **rubber** head harness, hycar
	10108576	10108574	10108578	Advantage 4100 Facepiece, with **Kevlar net** head harness, hycar
ADVANTAGE 4100 FACEPIECES* **Single-Port Silicone**	10083796	10083792	10083800	Advantage 4100 Facepiece, with **polyester net** head harness, silicone
	10083798	10083794	10083802	Advantage 4100 Facepiece, with **rubber** head harness, silicone
	10108575	10108573	10108577	Advantage 4100 Facepiece, with **Kevlar net** head harness, silicone

Adapter not included. See below chart for adapter part number.

FACEPIECE ADAPTER ASSEMBLIES for Advantage 4000 Facepieces	10065328	Adapter assembly, twin-cartridges
	10065329	Adapter assembly, push-to-connect
	10065330	Adapter assembly, Rd 40

WELDER'S ACCESSORIES	10077063	Clip-On Welder's Adapter for 4200 Twin-Port Facepiece; with cover lens, less filter plate

rubber head harness

polyester net head harness

Kevlar net head harness

Advantage® 3000 Series Full-Facepiece Respirators

Advantage 3200 Respirator with rubber harness and chemical cartridges

Advantage 3200 Facepiece with European-style harness

Advantage 3100 Facepiece with rubber harness

- Full-face respirator features innovative design to lower breathing resistance
- Integrated nosecup reduces lens fogging
- Silicone facepiece increases wearer comfort
- Scratch-resistant, optically correct wraparound lens provides wide field-of-vision
- Optional European-style Advantage head harness dons like a catcher›s mask
- *Applications include:* asbestos abatement, welding, sanding & grinding

For more information, please see MSA bulletin 1012-42-MC.

	Small	Medium	Large	
ADVANTAGE 3200 FACEPIECES	10028996	10028995	10028997	Advantage 3200 Facepiece, with **rubber** head harness
Twin-Port	10031340	10031309	10031341	Advantage 3200 Facepiece, with **European-style** harness
ADVANTAGE 3100 FACEPIECES	10028999	10028998	10029000	Advantage 3100 Facepiece, with **rubber** head harness
Single-Port	10031343	10031342	10031344	Advantage 3100 Facepiece, with **European-style** harness

Ultra-Twin® Full-Facepiece Respirator

- Ideal for defense against toxic chemicals
- Wide lens is scratch resistant
- Speaking diaphragm provides clear communications
- Nosecup reduces lens fogging

Ultra-Twin Respirator (small) with GMC threaded metal Comfo Cartridges

	Small	Medium	Large	
ULTRA-TWIN FACEPIECES	471298	471286	471310	Ultra-Twin Facepiece, hycar
	480263	480259	480267	Ultra-Twin Facepiece, silicone

▶ See page 8 for Advantage filters and cartridges and page 9 for flexible pad-style filters.

▶ See page 9 for threaded Comfo cartridges and filters.

▶ See page 10 for accessories, and pages 11–12 for fit test kits.

Ultra Elite® Twin-Cartridge Full-Facepiece Respirator

- Widely used mask provides excellent comfort and protection
- Distortion-free lens allows wide field-of-view
- Models include Hycar rubber and silicone versions
- Unique airflow prevents lens fogging
- Speaking diaphragm provides excellent close-range communication

	Small	Medium	Large	
ULTRA ELITE FACEPIECES	10016755	10016756	10016757	Ultra Elite Facepiece, SoftFeel silicone, with twin-cartridge adapter
	493064	493020	493108	Ultra Elite Facepiece, SoftFeel hycar, less twin-cartridge adapter
	493072	493928	493116	Ultra Elite Facepiece, SoftFeel silicone, less twin-cartridge adapter

Note: Ultra Elite Facepieces must be fitted with a twin-cartridge adapter P/N 803622 to be used as a twin-cartridge respirator.

Advantage® Respirator Cartridges

The Advantage line of particulate, chemical and combination cartridges is NIOSH-certified to 42 CFR, Part 84 and provides lightweight, low-profile performance. Cartridges fit 200 LS and 420 Half-Mask, G1, 1000, 3000 and 4000 Series Full-Facepiece Advantage Respirators.

MSA Cartridge Description	Re-Order Part Number	Color Coding	Organic Vapor OV	Acid Gases: Chlorine CL	Sulfur Dioxide SD	Chlorine Dioxide CD	Hydrogen Chloride HC	Hydrogen Sulfide HS	Ammonia AM	Methylamine MA	Formaldehyde FM	Hydrogen Fluoride HF	Mercury Vapor MV	P100	R95	N95	See Notes below
Organic Vapor (GMA)	815355	Black	✓														2,3
Organic Vapor w/N95 Prefilter (GMA)	815355 w/815394 or 816357	Black	✓													✓	2,3,5
Organic Vapor w/R95 Prefilter (GMA)	815355 w/815397	Black	✓												✓		2,3,5
Organic Vapor/P100 (GMA)	815362	Black/Magenta	✓											✓			2,3,4
Acid Gas (GMB)	815356	White		✓	✓	✓	✓	✓									2
Acid Gas w/N95 Prefilter (GMB)	815356 w/815394 or 816357	White		✓	✓	✓	✓	✓								✓	2,5
Acid Gas w/R95 Prefilter (GMB)	815356 w/815397	White		✓	✓	✓	✓	✓							✓		2,5
Acid Gas/P100 (GMB)	815363	White/Magenta		✓	✓	✓	✓	✓						✓			2,4
Organic Vapor/Acid Gas (GMC)	815357	Yellow	✓	✓	✓	✓	✓	✓									2,3
Organic Vapor/Acid Gas w/N95 Prefilter (GMC)	815357 w/815394 or 816357	Yellow	✓	✓	✓	✓	✓	✓								✓	2,3,5
Organic Vapor/Acid Gas w/R95 Prefilter (GMC)	815357 w/815397	Yellow	✓	✓	✓	✓	✓	✓							✓		2,3,5
Organic Vapor/Acid Gas/P100 (GMC)	815364	Yellow/Magenta	✓	✓	✓	✓	✓	✓						✓			2,3,4
Ammonia/Methylamine (GMD)	815358	Green							✓	✓							2,3
Ammonia/Methylamine w/N95 Prefilter (GMD)	815358 w/815394 or 816357	Green							✓	✓						✓	2,3,5
Ammonia/Methylamine w/R95 Prefilter (GMD)	815358 w/815397	Green							✓	✓					✓		2,3,5
Ammonia/Methylamine/P100 (GMD)	815365	Green/Magenta							✓	✓				✓			2,3,4
Multigas (GME)	815359	Olive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					2,3
Multigas w/N95 Prefilter (GME)	815359 w/815394 or 816357	Olive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	2,3,5
Multigas w/R95 Prefilter (GME)	815359 w/815397	Olive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		2,3,5
Multigas/P100 (GME)	815366	Olive/Magenta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			2,3,4
Iodine Vapor/P100 (GMI)*	815641	Black/Magenta	✓											✓			2,4
Chlorine/Mecury Vapor (Mersorb)	815361	Olive hatched		✓									✓				2
Chlorine/Mecury Vapor w/N95 Prefilter (Mersorb)	815361 w/815394 or 816357	Olive hatched		✓									✓			✓	2,5
Chlorine/Mercury Vapor w/R95 Prefilter (Mersorb)	815361 w/815397	Olive hatched		✓									✓		✓		2,5
Chlorine/Mercury Vapor/P100 (Mersorb)	815368	Olive/Magenta hatched		✓									✓	✓			2,4
Low-Profile P100	815369 Pack of 2 / 10123079 Pack of 100	Magenta												✓			1,4
P100 with Splash Guard	10146939 Pack of 2	Magenta												✓			1,4
N95 Snap-On Prefilter and Cover	815394 Pack of 10 / 816357 Box of 50 / 815392 Reusable Snap-On Cover, 2 in a pkg																
R95 Snap-On Prefilter and Cover	815397 Box of 20 / 815401 Reusable Snap-On Cover, 2 in a pkg																

⚠ WARNING

An appropriate cartridge change-out schedule must be developed by a qualified professional, unless the cartridge/canister utilizes an end-of-service-life indicator. The change-out schedule must take into account all factors that may influence respiratory protection including specific work practices and other conditions unique to the worker's environment.

If using against substances having poor warning properties, there is no secondary means of knowing when to replace the cartridges/canister. In such cases, take appropriate additional precautions to prevent overexposure, which may include a more conservative change-out schedule or using an air-supplied respirator or SCBA. Failure to follow this warning can result in serious personal injury or death. As a reference, below is a partial list of substances having poor warning properties:

Acrolein	Hydrogen cyanide	Nitric acid	Phosphorus trichloride
Aniline	Hydrogen selenide	Nitro compounds	Stibine
Arsine	Methanol	Nitrogen oxides	Sulfur chloride
Bromine	Methyl bromide	Nitroglycerin	Urethane or other diisocyanate-containing paints
Carbon monoxide	Methyl chloride	Nitromethane	Vinyl chloride
Diisocyanates	Methylene chloride	Phosgene	
Dimethyl sulfate	Nickel carbonyl	Phosphine	

Definitions

N95-Particulate Filter (95% filter efficiency level) effective against particulate aerosols free of oil; time use restrictions may apply.

R95-Particulate Filter (95% filter efficiency level) effective against all particulate aerosols; time use restrictions may apply.

P100-Particulate Filter (99.97% filter efficiency level) effective against all particulate aerosols.

* Effective against, but not NIOSH-approved, for Iodine Vapor.

Notes

1. Do not use in atmospheres containing less than 19.5 percent oxygen, in atmospheres containing gases or vapors or in atmospheres immediately dangerous to life and health.
2. Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health.
3. Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with the sorbent material in the cartridge.
4. 99.97 percent efficient against 0.3 micron DOP.
5. Both a prefilter and cover must be used with the cartridge in order to obtain R95 or N95 particulate protection.

Comfo® Respirator Cartridges

The Comfo line of particulate, chemical and combination cartridges is NIOSH-certified to 42 CFR, Part 84. Cartridges fit Comfo Classic, Ultra-Twin, Ultra Elite Twin-Cartridge and Duo-Twin Respirators, and certain half-mask and full-face G1, Advantage Respirators with Adapter (P/N 809999).

Filter Type & Efficiency — See **Definitions** on previous page.

MSA Cartridge Description	Re-Order Part Number	Color Coding	OV	CL	SD	CD	HC	HS	AM	MA	FM	HF	MV	P100	R95	N95	Notes
Organic Vapor (GMA)	464031 (10 in box)	Black	✓												✓	✓	2,3,5
Organic Vapor/P100 (GMA)	815178 (6 in box)	Black/Magenta	✓											✓			2,3,4
Acid Gas (GMB)	464032 (10 in box)			✓	✓	✓	✓	✓							✓	✓	2,5
Acid Gas/P100 (GMB)	815179 (6 in box)	Magenta		✓	✓	✓	✓	✓						✓			2,4
Organic Vapor/Acid Gas (GMC)	464046 (10 in box)	Yellow	✓	✓	✓	✓	✓	✓							✓	✓	2,3,5
Organic Vapor/Acid Gas/P100 (GMC)	815180 (6 in box)	Yellow/Magenta	✓	✓	✓	✓	✓	✓						✓			2,3,4
Ammonia/Methylamine (GMD)	464033 (10 in box)	Green							✓	✓					✓	✓	2,3,5
Ammonia/Methylamine/P100 (GMD)	815181 (6 in box)	Green/Magenta							✓	✓				✓			2,3,4
Multigas (GME)	492790 (10 in box)	Olive/Magenta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	2,3,5
Multigas/P100 (GME)	815182 (6 in box)	Magenta/Olive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓			2,3,4
Iodine Vapor/P100 (GMI)*	815184 (6 in box)	Magenta/Black	✓											✓			2,4
Chlorine/Mercury Vapor/P100 (Mersorb)	815185 (6 in box)	Magenta (wavy)		✓									✓	✓			2,4
Low-Profile P100	815177 (10 in box)	Magenta												✓			1,4
Sparkfoe® P100	815176 (10 in box)	Magenta (hatched)												✓			1,4
Sparkfoe Low-Profile P100	10153412 (16 in box)	Magenta (hatched)												✓			1,4
Prefilter and Cover N95	816662 N95 (10 in pkg.) / 816661 N95 (50 in pkg.) / 489353 Reusable snap-on cover (1 in pkg.; 2 req.)															✓	1
Prefilter and Cover R95	816287 R95 (20 in box) / 489219 R95 Reusable snap-on cover (1 in pkg.; 2 req.)														✓		1

Acid Gases span columns CL, SD, CD, HC, HS.

* Effective against, but not NIOSH-approved for Iodine Vapor.   Note: See WARNING on previous page.

Flexi-Filter® Pads for Advantage Respirators

These low-profile, flexible pads fit well under a welding hood and with other personal protective equipment. They offer great balance and weight distribution for maintaining a good face seal, while their swept-back design provides improved vision and comfort.

Filter Type & Efficiency — See **Definitions** on previous page.

MSA Filter Description	Part No.	Color Coding	P100	P95	N95	Notes
Flexi-Filter/P100	818342	Magenta	✓			1,4
Flexi-Filter/P100 w/Nuisance Level OV, Ozone Removal	818343	Magenta	✓			1,4
Flexi-Filter/P100 w/Nuisance Level AG, HF Removal	818344	Magenta	✓			1,4
Flexi-Filter/N95	818346	Black			✓	1
Flexi-Filter/N95 w/Nuisance Level OV Removal	818347	Black			✓	1
Flexi-Filter/P95	818354	Black		✓		1
Flexi-Filter/P95 w/Nuisance Level OV Removal	818355	Black		✓		1

- Ultra Filter Respirators, comprised of Ultravue Facepiece and Ultra Filter Cartridge, offer protection against particulate hazards
- Cartridge provides large, effective filter area

THREADED RESPIRATOR CARTRIDGES FOR ULTRA FILTER RESPIRATORS	10010420	Round Ultra Filter Cartridge, box of 6
	10010421	Round Ultra Filter Cartridge, box of 50

Facepiece Accessories

ADVANTAGE 420 ACCESSORIES		10097887	Storage poly bag
		468730	Carrying pouch with belt loops for half-mask respirators
		809999	Advantage Adapter for threaded cartridges, package of 2
		10056424	Advantage Quantitative Fit Test Adapter
ADVANTAGE 200 LS ACCESSORIES		809999	Advantage Adapter for threaded cartridges, package of 2
		10056424	Advantage Quantitative Fit Test Adapter
		468730	Carrying pouch for half-mask respirators
COMFO CLASSIC ACCESSORIES		812022	QuikChek II Fit-Test Adapter for Comfo Respirators
		803196	QuikChek II Replacement Kit with 25 ft of sampling tubing and 25 connectors, clips, and suction cups
		468730	Carrying pouch with belt loops for half-mask respirators
ADVANTAGE 3000 SERIES ACCESSORIES		10029298	Spectacle Kit for Advantage Respirators
		10056424	Advantage Quantitative Fit Test Adapter
		10031542	Cover Lens, clear, box of 25
		10031543	Cover Lens, smoke-tinted, box of 25
		D2056734	Black plastic carrying/storage case
ADVANTAGE 4000 SERIES ACCESSORIES		10029298	Spectacle Kit for Advantage Respirators
		10056424	Advantage Quantitative Fit Test Adapter, for Advantage 4200 Facepieces
		805078	QuikChek III Fit Test Adapter for Advantage 4100 Facepieces*
		10031542	Cover Lens, clear, box of 25
		10031543	Cover Lens, smoke-tinted, box of 25
		10077063	Clip-On Welders Adapter for Advantage 4200 Twin-Port Facepiece, with cover lens, less filter plate
		10065326	Clip-On Welders Adapter for Advantage 4100 Single-Port Facepiece, with cover lens, less filter plate
		D2056734	Black plastic carrying/storage case

*Also requires RD40 Adapter P/N 10065330

ULTRA-TWIN/ ULTRAVUE® ACCESSORIES		454819	Spectacle Kit for Ultra-Twin/Ultravue
		812022	QuikChek II Fit-Test Adapter for Ultra-Twin Respirator
		803196	QuikChek II Replacement Kit with 25 ft of sampling tubing and 25 connectors, clips, and suction cups
		803622	Twin-Cartridge Adapter for Ultravue Facepieces
		456975	Cover Lens, clear, box of 25
		480326	Cover Lens, smoke-tinted, box of 25
		813138	Nosecup, black, small
		813139	Nosecup, black, medium
		813140	Nosecup, black, large
		D2056734	Black plastic carrying/storage case
ULTRA ELITE ACCESSORIES		804638	Spectacle Kit for Ultra Elite Respirator, side wire support
		493581	Spectacle Kit for Ultra Elite Respirator, center support
		805078	QuikChek III Fit-Test Adapter for Ultra Elite Respirators
		817446	QuikChek IV Adapter for Ultravue/Ultra Elite facepieces w/1/4-turn quick-disconnect, w/Type H cartridge
		803622	Twin-Cartridge Adapter for Ultra Elite Facepieces
		491500	Cover Lens, clear, box of 25
		805456	Cover Lens, smoke-tinted, box of 25
		D2056734	Black plastic carrying/storage case

Cleaning Supplies

PRODUCT NAME	**MSA Confidence® Plus 2 Germicidal Cleaner**
DESCRIPTION	Mix 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.
PART NO.	**10009971** (US) **10032737** (Canada)

PRODUCT NAME	**Personal Safety Equipment Towelettes**
DESCRIPTION	Provides an excellent method for wiping and refreshing respirators, hardhats, and other safety equipment between full cleaning periods.
PART NO.	**697383** – Box of 100 individually wrapped towelettes (7-1/4" x 5") **697382** – Canister with 220 towelettes (4-1/4" x 6") **10022871** – "The Big Ones", box of 50 individually wrapped towelettes (8" x 11")

MSA Respirator Fit Test Compliance
29 CFR Part 1910.134

Advantage 200LS Respirator	Advantage 420 Respirator	Comfo Classic Respirator	G1 Facepiece
Advantage 3100 Respirator	Advantage 3200 Respirator	Advantage 4100 Respirator	Advantage 4200 Respirator
Advantage 1000/ Millennium Respirator	Ultra-Twin Respirator	Ultravue Respirator	Ultra Elite Respirator

MSA RESPIRATOR FIT TEST KITS		
	697287	Saccharin Qualitative Fit Test Kit
	697444	Bitrex Qualitative Fit Test Kit
	801628	Banana Oil Qualitative Fit Test Kit
	697285	Replacement (Saccharin) Sensitivity Test
	697445	Solution, ampoules, box of 6 (Bitrex)
	697286	Replacement Fit-Test (Saccharin) Solution, ampoules, box of 6
	697446	Replacement Fit-Test (Bitrex) Solution, ampoules, box of 6
	697447	#1 Sensitivity Nebulizer
	697459	#2 Fit-Test Nebulizer
	697448	Test Hood (Same for Both)

Online Resources

Online Response® Respirator Selector
Available at www.MSAsafety.com/responseguide

- Helps identify the proper respirator you need
- Has broadest range of respiratory protective devices available
- Recommends respirators for more than 700 chemical hazards

Cartridge Life Expectancy Calculator
Available at www.MSAsafety.com/responseguide

MSA's interactive web pages help users determine the life expectancy of specific respirator cartridges in various hazardous situations. This information provides guidance for how long a cartridge should be used before it must be replaced.

Fit Test Compliance Reference Guide

Respirator Description	Class	APF	OSHA Acceptable Fit Test Methods	Required Fit Factor Quantitative	MSA Fit Test Adapter Required	Cartridge Type	Probed Facepiece P/N (if applicable)	Controlled Negative Pressure (OHD) Quan Fit Test Adapter
Advantage 200 LS	Half-Mask Negative Pressure	10	Qualitative or Quantitative	100	Advantage Adapter #10056424	Bayonet or threaded with adapter #809999	S (816515), M (816513), L (816517)	OHD P/N 9513-0210
Advantage 420	Half-Mask Negative Pressure	10	Qualitative or Quantitative	100	Advantage Adapter #10056424	Bayonet or threaded w/adapter #809999	S (10107710), M (10107731), L (10107732)	OHD P/N 9513-0210
Advantage 420	Half-Mask Negative Pressure	10	Qualitative or Quantitative	100	Advantage Adapter #10056424	Bayonet only	N/A	OHD P/N 9513-0210
Comfo Classic	Half-Mask Negative Pressure	10	Qualitative or Quantitative	100	Quik Chek® II Adapter #812022	Threaded	S (808255), M (808249), L (808261)	OHD P/N 9513-0109
Advantage 3100	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078	N/A	N/A	OHD P/N 9513-0210
Advantage 3200	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Advantage Adapter #10056424	Bayonet or threaded w/adapter #809999	N/A	OHD P/N 9513-0210
Advantage 4100	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078 Use with RD 40 Adapter #10065330	N/A	N/A	OHD P/N 9513-0130
Advantage 4200	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Advantage Adapter #10056424	Bayonet or threaded w/ adapter #809999	N/A	OHD P/N 9513-0210
Advantage 1000	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Advantage Adapter #10056424	Bayonet	N/A	OHD P/N 9513-0210
Ultra-Twin	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Quik Chek II Adapter #812022	Threaded	S (482025), M (482024), L (482026)	OHD P/N 9513-0109
Ultravue	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Quik Chek I Adapter #802710	N/A	S (482009), M (482008), L (482010)	OHD P/N 9513-0130
Ultra-Elite	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078	N/A	S (813211), M (813209), L (813213)	OHD P/N 9513-0130
G1 Pressure Demand	Full-Face Positive Pressure	10,000 SCBA 1000 Air-Line	Qualitative or Quantitative	500	Quik Chek III Adapter #805078 Use with Single Port APR adapter #10144231-SP Advantage Adapter 10056424 Use with Twin Port APR Adapter 10199720	N/A	N/A	OHD P/N 9513-0130 OHD P/N 9513-0210
Millennium Facepiece	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500 2000±	Quik Chek III Adapter #805078	Threaded	Probe Assembly (10006227)	OHD P/N 9513-0130
Ultra Elite Pressure-Demand	Full-Face Positive Pressure	10,000 SCBA 1000 Air-Line	Qualitative or Quantitative	500†	APR Fit Test Adapter Kit, #10044576 APR Fit Test Adapter Kit, Slide Version #10107229 (10032511 APR adapter only) APR Fit Test Adapter Kit, Push-to-Connect #10107256 (10040052 APR adapter only) Quik Chek Adapter Kit, Firehawk #10044576‡	Bayonet	Negative Pressure S (813211), M (813209), L (813213)	OHD P/N 9513-0380
Ultra Elite Respirator	Full-Face Positive/ Negative Pressure	10,000 SCBA 50 APR	Qualitative or Quantitative	500† SCBA 2000± APR	Responder Fit Test Kit #10082555	Threaded	N/A	N/A

If only qualitative fit test is performed on a full-face negative pressure respirator, then an APF of only 10 can be assigned. If a quantitative fit test is performed, the APF is 50.
± MSA recommends a fit factor of 2000 if the application is a CBRN environment.
† For quantitative fit testing of pressure-demand facepiece, the facepiece must be tested in a negative pressure mode which requires a minimum fit factor of 500.
‡ The Quik-Chek Adapter allows quantitative fit tests to be performed on a pressure demand Ultra Elite Firehawk facepiece by only trained and qualified personnel. Special probed facepiece is not required.

OptimAir® Mask-Mounted Powered Air-Purifying Respirator (PAPR) *with Type HE OptiFilter® XL Filter*

OptimAir Mask-Mounted PAPR Kits consist of motor/blower, NiMH battery, dual-rate charger, one Type HE OptiFilter XL Cartridge, PVC decon belt, and choice of facepiece. Housing of polycarbonate/polyester construction and stainless steel connectors result in extreme durability. NIOSH-approved as mask-mounted PAPR. **OptimAir Mask-Mounted PAPR offers a full two-year warranty.**

Features
Motor/blower assembly
- Assembly threads onto facepiece inlet; does not impede vision or facepiece fit.
- Connects to battery pack with heavy duty lockable stainless steel power cable connector.
- Lightweight, compact design.
- Low maintenance, easy decontamination.

Compact, lightweight, NiMH battery pack
- Sealed 12.5-oz. NiMH battery pack is small enough to fit in most pockets.
- NiMH batteries do not have NiCad battery memory effect.
- Battery pack is water-resistant for easy shower decontamination.
- Operates for more than eight hours under most conditions.

Approvals and Standards
OptimAir Mask-Mounted PAPR carries NIOSH approval No. TC-21C-0823. Filters must be replaced when air flow drops below 4 cfm (115 lpm).

NOTE: *OptimAir Mask-Mounted PAPR is not NIOSH-approved for use with gas, chemical or combination cartridges. Use only Type HE OptiFilter XL Filter.*

OPTIMAIR MASK-MOUNTED PAPR KITS

All Kits include: motor/blower, NiMH battery, dual-rate battery charger and cable, one Type HE OptiFilter XL Cartridge, waist belt, & choice of facepiece.

ADVANTAGE 3100 PAPR	Head Harness	Small	Medium	Large
	With **rubber** head harness	10095181	10095182	10095183

ADVANTAGE 4100 PAPR	Material	Small	Medium	Large
	Black silicone with **rubber** harness	10095193	10095189	10095197
	Black Hycar rubber with **rubber** harness	10095194	10095190	10095198

Upgrade Kits include: motor/blower, NiMH battery, dual-rate battery charger and cable, one Type HE OptiFilter XL Cartridge, and waist belt. Use your present facepiece or order facepiece separately from ordering chart.

	Description	Part No.
UPGRADE KIT	OptimAir Mask-Mounted PAPR Upgrade Kit, less facepiece	10095166

REPLACEMENT FACEPIECES G1 *Also requires single-port APR adapter P/N 10144231-SP*	Facepiece	Small	Medium	Large
	G1 Facepiece with 4-pt. polyester head harness	10188954	10188955	10188956
	G1 Facepiece with rubber head harness	10156461	10156462	10156463
	G1 Facepiece with 4-pt. Kevlar head harness	10156458	10156459	10156460

REPLACEMENT FACEPIECES Advantage 3100	Facepiece	Small	Medium	Large
	Advantage 3100 Facepiece, with rubber head harness	10028999	10028998	10029000
	Advantage 3100 Facepiece, with European-style head harness	10031343	10031342	10031344

REPLAC EMENT FACEPIECES Advantage 4100 *Also requires RD40 Adapter P/N 1006533*	Material	Small	Medium	Large
	Advantage 4100 Facepiece, black silicone w/net head harness	10083796	10083792	10083800
	Advantage 4100 Facepiece, black Hycar rubber w/net head harness	10083797	10083793	10083801

REPLACEMENT FACEPIECES Ultra Elite	Material	Small	Medium	Large
	Ultra Elite, silicone rubber head harness	493072	493028	493116
	Ultra Elite, Hycar rubber head harness	493064	493020	493108

	MSA Purifying Element	Purifying Protection Code	Code Color	No. in Box	Part No.
OPTIFILTER CARTRIDGES	OptiFilter XL, Type HE	HE	▮	20	10042346
	OptiFilter XL, Type HE	HE	▮	6	496081

	Description	Part No.
PARTS AND ACCESSORIES	Battery pack assembly, packaged	10095162
	Motor/blower assembly, w/o cable, packaged	10095163
	Cable assembly, packaged	10095164
	Charger, packaged	10095165
	Flow check device	487995
	Adapter for flow check device	491046
	Replacement belt, PVC	473902
	Carrying/storage case, black plastic	D2056734
	MSA Confidence Plus Germicidal Cleaner, 32 oz. bottle	10009971

	Description	Part No.
WAIST BELTS FOR OPTIMAIR MASK-MOUNTED PAPRS	**Standard**—clear polyvinylchloride (PVC) support belt, 52" long (for waist sizes of up to 48")	473902
	Optional—polyurethane- coated nylon belt, 67" long	492827
	No-decon applications— uncoated nylon web waist belt	9961

OptimAir® TL Powered Air-Purifying Respirator

Now approved with G1 Facepiece ✓

- Single hip-hugging design for motor blower, cartridges
- Battery provides lightweight comfort and fit
- Low-profile motor blower offers optimal airflow through a crush-proof breathing tube
- Ergonomic battery pack allows for free movement within confined spaces
- Unit automatically adjusts flow rates for altitude changes via an internal pressure sensor
- Audible and visual alarms indicate low flow condition and low battery voltage
- Available with standard or extended-life battery
- Approved with hoods as listed or for facepiece use with Advantage 3000, Advantage 4000, Ultra Elite, or G1 Facepiece. Facepiece style breathing tube required. Single port adapters required for G1 and Advantage 4000 Facepieces

STANDARD OPTIMAIR TL KITS

Kits include: PAPR, motor/blower, battery, Smart Charger, breathing tube, and decon belt.

	Description	Part No.
OPTIMAIR TL KITS *for facepieces*	OptimAir TL Kit with **standard** battery	10081114
	OptimAir TL Kit with **long-life** battery	10081115
OPTIMAIR TL KITS *for hoods*	OptimAir TL Kit with **standard** battery	10081116
	OptimAir TL Kit with **long-life** battery	10081117

OPTIMAIR TL RESPONSE KITS

Kits include: PAPR, extended life battery, charger, breathing tube, hood and 2 Type HE cartridges.

OPTIMAIR TL RESPONSE KITS	OptimAir TL Kit with low-profile white hood and Type HE cartridges	10214805
	OptimAir TL Kit with full single-bib hood and Type HE cartridges	10214891

	Single Bib	Double Bib
	Tychem® QC (polyethylene-coated Tyvek)	
HOODS, 4-PACK, THREADED CONNECTOR, WITH SUSPENSION	10083329	10083330
HOODS, 20-PACK, THREADED CONNECTOR, LESS SUSPENSION	10095739 (*white*) 10095748 (*yellow*)	10095743 (*white*) 10095749 (*yellow*)
HOODS, 4-PACK, STANDARD, WITH SUSPENSION	10083383	10083384
HOODS, 20-PACK, STANDARD, LESS SUSPENSION	10095740	10095744
	Tychem SL (Saranex-coated Tyvek)	
HOODS, 4-PACK, THREADED CONNECTOR, WITH SUSPENSION	10083381	10083382
HOODS, 20-PACK, THREADED CONNECTOR, LESS SUSPENSION	10095741	10095745
HOODS, 4-PACK, STANDARD, WITH SUSPENSION	10083385	10083386
HOODS, 20-PACK, STANDARD, LESS SUSPENSION	10095742	10095746

	Low-Profile Hood
HOOD, LOW-PROFILE, WHITE, 4-PACK	10083329
HOOD, LOW-PROFILE, WHITE, 20-PACK	10083383

OptimAir® TL Powered Air-Purifying Respirator

	Description	Part No.
FACEPIECE ACCESSORIES	RD-40 Inlet assembly, required for all Advantage 4100 facepieces	10065330
	Single Port 40mm adapter for G1 Facepiece	10144231-SP
	Hose for facepiece	10049630
	Flow check device for facepiece only	10087129

	Description	Part No.
HOOD SUSPENSIONS	20-pack	10103864
	1 each	10078469
HOOD ACCESSORIES	Hose clamp for standard hood, 6-pack	10083843
	Hood hose	10049631
	Hood hose, extended length	10082281
	Sweatband for hood suspension, 10-pack	10083618
	Cover lens for hood, clear, 10-pack	10082441
	Cover lens for hood, smoke, 10-pack	10220951
	Flow check device for hood only	10087130
	Fastener kit, hood to V-Gard helmet	10089665

	Description	Part No.
BATTERIES AND CHARGERS FOR OPTIMAIR TL PAPR	Standard battery	10076108
	Standard battery charger	10076110
	Long-life battery	10076109
	Long-life battery charger	10076107

	Description	Part No.
DECON ACCESSORIES FOR OPTIMAIR TL PAPR	Decon cover, 5-pack, natural	10075799
	Decon cover, 5-pack, yellow	10087152
	Decon belt (backpack buckle)	10078201
	Decon belt (cam lock buckle)	10074725

	Description	Part No.
CARTRIDGES	HE cartridge (6-pack)	10080455
	HE cartridge (54-pack)	10154877
	OV/CL/CD/HC/HS/SD/HE/HF cartridge (6-pack)	10080454
	AM/CL/CD/FM/HC/HS/MA/SD/HE/HF cartridge (6-pack)	10080456
	Spark Guard cartridge cover (single unit) (2 req.)	10068152

	Description	Part No.
OTHER ACCESSORIES FOR OPTIMAIR TL PAPR	O-ring replacement, hose hood, 10-pack	10085084
	Comfort belt	10049623
	Cartridge receptacle cover	10081414
	Shoulder strap	10059112
	Blower unit only	10088150
	Coupling nut for hood hose, 10 pack	10217723

Welder's Adapter for Full-Facepiece Respirators

- Molded of polycarbonate plastic, which has high resistance to impact, heat, and welding splatter
- Clip-on adapter attaches to facepiece by molded-in clips
- Large vision area—4½" x 5¼"—provides unobstructed view of work
- Supplied with impact-resistant cover lens; desired filter plate is ordered separately

	Description	Part No.
WELDER'S ADAPTERS	Clip-On Welder's Adapter for **Ultravue and Ultra Twin** Facepieces; with cover lens, less filter plate	472859
	Clip-On Welder's Adapter for **Ultra Elite** Facepiece; with cover lens, less filter plate	806482
	Clip-On Welder's Adapter for **Advantage 4200 Twin-Port** Facepiece; with cover lens, less filter plate	10077063
	Clip-On Welder's Adapter for **Advantage 4100 Single-Port** Facepiece; with cover lens, less filter plate	10065326
ACCESSORIES	Cover Lens	696095

Chin-Type Gas Masks

- Lightweight, comfortable gas masks offer protection against particulate matter, vapors, and gases
- Small round canister and comfortable facepiece provide easy downward head movement
- Canisters offer protection from:
  - Phosphine/Ammonia/Chlorine-P100
  - Organic Vapor-P100
  - Hydrogen Fluoride/Chlorine/P100
  - Formaldehyde/Acid Gas/Chlorine Dioxide/Hydrogen Sulfide/P100

Advantage 3100 Single-Port Facepiece

Advantage 4100 Single-Port Facepiece

Ultravue Facepiece

Ultra Elite Facepiece

G1 Facepiece

	Small	Medium	Large	
G1 FACEPIECES	10188954	10188955	10188956	G1 Facepiece, with 4-pt. **polyester** head harness
	10156461	10156462	10156463	G1 Facepiece, with **rubber** head harness
	10156458	10156459	10156460	G1 Facepiece, with 4-pt. **Kevlar** head harness
ADVANTAGE 3100 SINGLE-PORT FACEPIECES	10028999	10028998	10029000	Advantage 3100 Facepiece, with **rubber** head harness
	10031343	10031342	10031344	Advantage 3100 Facepiece, with **European-style** head harness
ADVANTAGE 4100 SINGLE-PORT FACEPIECES	10083796	10083792	10083800	Advantage 4100 Facepiece, black silicone, with **polyester net** head harness
	10083797	10083793	10083801	Advantage 4100 Facepiece, black hycar, with **polyester net** head harness
ULTRAVUE FACEPIECES	480251	480247	480255	Ultravue Facepiece, black silicone
	471218	457126	471230	Ultravue Facepiece, black hycar
ULTRA ELITE FACEPIECES	493072	493028	493116	Ultra Elite Facepiece, black silicone
	493064	493020	493108	Ultra Elite Facepiece, black hycar

REPLACEMENT CANISTERS	Single Canister	Color Coding	
	10059903*		Phosphine/Ammonia/Chlorine/P100 Canister (PH/AM/CL) **Approval:** TC-14G-0274
	10067469*		Organic Vapor/P100 Canister (OV) also effective against organic iodides and iodide vapors **Approval:** TC-14G-0279
	10067491*		Hydrogen Fluoride/Chlorine/P100 Canister (HF/CL) **Approval:** TC-14G-0280
	10067470*		Formaldehyde/Acid Gas/Chlorine Dioxide/Hydrogen Sulfide/P100 Canister (FM/AG/CD/HS) **Approval:** TC-14G-0282

Canister contains a P100 particulate filter (99.97% filter efficiency level) against all particulate amounts.

STORAGE CASES AND STORAGE ACCESSORIES	10075204	For Phosphine/Ammonia/Chlorine/P100 Gas Mask
	10075207	For Organic Vapor/P100 Gas Mask
	10075205	For Hydrogen Fluoride/P100 Gas Mask
	10075206	For Formaldehyde/Acid Gas/Chlorine Dioxide/Escape from Hydrogen Sulfide/P100 Gas Mask
	10071231	Wall bracket

ADDITIONAL PARTS FOR BELT-MOUNTING	10068195	Belt clip
	10068129	Breathing tube
	473902	PVC belt
	9961	Web support belt, uncoated
	492827	Polyurethane-coated nylon support belt
	10068152	Spark cover

Riot Control and CBRN Gas Masks

- Provides respiratory protection against military warfare, civil unrest and CBRN threats
- High-performance, custom-fit comfort in a variety of military- and riot-style masks
- Attracts, regains and neutralizes contaminants
- Flexible lens with a wider field of view for superior visibility (Millennium & Advantage 1000 Facepieces)
- Permeation-resistant construction
- Built-in speaking diaphragm

*Millennium Gas Mask
(for use with CBRN or
Riot Control canisters)*

*Advantage 1000 Riot Control
Gas Mask*

	Small	Medium	Large	
MILLENNIUM CBRN/ RIOT CONTROL GAS MASK	10051286	10051287	10051288	Millennium Gas Mask, with nosecup, drinking tube, and clear polycarbonate outsert *Order either Riot Control or CBRN canisters separately.*
ADVANTAGE 1000 RIOT CONTROL GAS MASK	813860	813859	813861	Advantage 1000 Riot Control Mask, complete with canister, nosecup, and identification tag *(NOTE: the Advantage 1000 Riot Control Mask is NOT CBRN approved and uses Riot Control canisters only.)*

RIOT CONTROL CANISTERS	818264	Millennium riot control canisters, box of 6
	817590	Advantage 1000 riot control canisters, box of 6
CBRN CANISTER	10046570	CBRN canister, for Millennium and Ultra Elite Facepieces
GME CANISTER	10160594	GME P100 canister
LENS OUTSERT For Millennium Facepiece	10008907	Polycarbonate lens outsert, **clear**, small
	10008906	Polycarbonate lens outsert, **clear**, medium/large
	10008908	Polycarbonate lens outsert, **tinted**, medium/large
LENS OUTSERT For Advantage 1000 Facepiece	806463	Polycarbonate lens outsert, **clear**, small
	806462	Polycarbonate lens outsert, **clear**, medium/large
ESP® II COMMUNICATION SYSTEM For Millennium and Advantage 1000 Facepieces	10026265	1-piece, self-contained, electronic speech projection device less battery
OTHER ACCESSORIES For Millennium and Advantage 1000 Facepieces	10034184	Gas Mask Pouch, Military Style
	817040	Black Nylon Bag
	816137	Advantage 1000/Millennium Spectacle Kit

MSA G1 CBRN APR

MSA's innovative G1 Facepiece can be easily adapted into a compliant CBRN Air-Purifying Respirator with the installation of an APR Adapter, CBRN Canister, and CBRN Nosecup for use in atmospheres potentially contaminated with chemical, biological, radioactive and/or nuclear (CBRN) warfare.

Notes:
- *G1 APR Facepiece Assembly does not include the CBRN Canister or APR Adapter, must be ordered separately.*
- *The G1 CBRN APR is approved for the 4-point harness, 5-point harness, and rubber harness.*
- *The neckstrap is also approved in both cloth and rubber.*
- *The standard G1 facepiece nosecup is not approved for CBRN applications and the CBRN nosecup is not approved for use in a traditional firefighting situation.*
- *If using the standard G1 facepiece in a traditional firefighting situation and CBRN environment, use the CBRN nosecup for the Fit Test.*

FACEPIECE ASSEMBLIES	10194379	Facepiece Assembly, G1 APR, SMALL
	10194380	Facepiece Assembly, G1 APR, MEDIUM
	10194381	Facepiece Assembly, G1 APR, LARGE
NOSECUP KITS	10189322	KIT, REPL, CBRN Nosecup, G1 Facepiece, LG
	10189323	KIT, REPL, CBRN Nosecup, G1 Facepiece, MD/SM
AIRGUIDES	10191617	AIRGUIDE CBRN, G1 Facepiece, left
	10191618	AIRGUIDE CBRN, G1 Facepiece, right
MISCELLANEOUS	10194547	Cover, G1 Filter Adapter
	10194548	Washer, RD40, green
	10194549	Button, G1 Filter Adapter
	10046570	Canister, CBRN, PKG, Threaded
	10144231-SP	Kit, Filter Adapter Assy, G1 Facepiece

Responder® Powered Air-Purifying Respirator

- Respirator provides constant filtered airflow, which reduces fatigue and prevents facepiece fogging
- Long-life unit provides non-IDLH respiratory protection for up to 8 hours
- Unit is compatible with MSA Millennium and Ultra Elite facepieces
- Batteries can be "hot-swapped"
- Blower's EMI shield eliminates interference with radio ommunications
- *Applications include:* CBRN incidents, civil disturbances, clandestine labs

You must choose Responder PAPR Kit, facepiece, and cartridge for complete system.

RESPONDER PAPR KITS less facepiece and cartridge	B-60141-030	Responder CBRN PAPR Kit with 30" Breathing Tube, LiSO$_2$ Battery
	B-60141-036	Responder CBRN PAPR Kit with 36" Breathing Tube, LiSO$_2$ Battery
	B-60170-030	Responder CBRN PAPR Kit with 30" Breathing Tube, NiMH Battery
	B-60170-036	Responder CBRN PAPR Kit with 36" Breathing Tube, NiMH Battery

S-CAP™ Fire Escape Hood

- Filters out CO and smoke; designed for minimum rated service time of 15 min.
- Universal size: easily fitted with quick donning and effective within seconds
- Minimal training required
- Wide field of view lens and highly visible yellow hood

Wall box

S-CAP FIRE ESCAPE HOOD	**10064644**	S-CAP in cardboard box
	10064645	S-CAP in wall box

W65 Self-Rescuer Respirator

- Convenient, portable self-rescuer provides emergency protection against CO
- One-time-use device for escape purposes only
- Lightweight—only 2.2 lbs.
- Rugged stainless steel case
- Unit should not be used in atmospheres containing less than 19.5 percent oxygen or in atmospheres containing other toxic gases and vapors

W65 **Holster** **Boot**

W65 SELF-RESCUER RESPIRATOR	**455299**	W65 Self-Rescuer Respirator, complete in carton
HOLSTER	**455535**	Leather Holster—adapts Self-Rescuer to belts up to 2½ inches in width
	460027	Neoprene Holster—adapts Self-Rescuer to belts up to 2½ inches in width
PROTECTIVE BOOT	**449428**	Protective Boot
SELF-RESCUER TRAINING MODEL	**455696**	Training Model, in red case

▶ **Other MSA Products for Mining Applications**
For miner's cap lamp and support system, see p. 91. For ALTAIR 4X MSHA Portable Gas Detector, see p. 60.

Constant Flow Air-Line Respirator

- Supplies long-duration respiratory protection with continuous air flow from an external source
- Maintains a slight positive pressure of air during both inhalation and exhalation to prevent contaminant seeping inside facepiece
- For use only in non-IDLH environments

Kits include: a Constant Flow Air-Line Respirator with an Advantage 4100 Facepiece (medium size, hycar rubber, polyester net head harness) with a High- or Low-Pressure Flow Control Valve, breathing tube and nylon belt assembly, Foster Steel quick-disconnects for connecting the respirator to the air-supply hose, a 50-foot section of neoprene air-supply hose complete with Foster Steel plug to attach the air-supply hose to your air source.

| DUO-TWIN RESPIRATOR COMPLETE ASSEMBLIES | 10108494 | Constant Flow Air-Line Respirator, **LOW** pressure control valve, black body |
| | 10108593 | Constant Flow Air-Line Respirator, **HIGH** pressure control valve, gold body |

	Advantage 4100 Facepiece	Quick-disconnect
CONSTANT FLOW COMPLETE ASSEMBLIES High-pressure control valve (35–40 psig inlet pressure for 8–300 ft. of hose)	10088132	Snap-Tite aluminum
	10088134	Foster steel
	10088136	Hansen brass
	10088135	CEJN Locking chrome-plated brass
CONSTANT FLOW COMPLETE ASSEMBLIES Low-pressure control valve (10–15 psig inlet pressure for 8–50 ft. of hose)	10088107	Snap-Tite aluminum
	10088109	Foster steel
	10088121	Hansen brass
	10088110	CEJN Locking chrome-plated brass

Note: *Facepieces can also be ordered in silicone instead of hycar rubber. Three sizes of facepieces available. For belts, MSA Air-Supply Hose and other accessories, see p. 30. For separate quick-disconnect plugs and sockets, see p. 29. See pages 31–32 for typical Pressure Demand Air-Line and Constant Flow Air-Line Systems setup.*

Duo-Twin™ Respirators

- Use where ample air supply is available, such as that provided by air compressor
- If air supply fails, user is automatically protected by air-purifying cartridges which protect against a variety of contaminants
- Should not be used in atmospheres containing less than 19.5% oxygen
- NIOSH approved
- Applications: pharmaceutical, chemical, petrochemical, and nuclear industries

Duo-Twin Respirator with Advantage 4000 Facepiece

Assemblies come complete with facepiece, breathing tube, adapter assembly/regulator, web belt and Foster steel plug and socket assembly

| DUO-TWIN RESPIRATOR COMPLETE ASSEMBLIES | 10091873 | Constant-Flow Duo-Twin Respirator with **Advantage 4200 Facepiece** Uses Advantage Respirator Cartridges listed on p. 8 |
| | 490143 | Constant-Flow Duo-Twin Respirator with **Ultravue Facepiece** Uses Comfo Respirator Cartridges listed on p. 9 |

Abrasi-Blast™ Supplied-Air Respirator

- Provides respiratory and upper body protection for personnel engaged in abrasive blasting
- Heavy, rubber hood protects against rebounding abrasive materials
- In addition to hood, respirator includes facepiece with lens housing, breathing tube, lens cartridge, flow-control device, air-supply hose, support belts
- Removable flat-glass cover lens
- Choose waist-length or shoulder-length style

	Waist-Length Hood	Shoulder-Length Hood	
COMPLETE ASSEMBLIES WITH ADVANTAGE 4000 FACEPIECE	10089177	10089210	Abrasi-Blast Respirator with **Advantage 4000 Facepiece** Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12›› untempered glass cover lenses per cartridge), breathing tube (470734), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi. *Order air-supply hose separately.*
COMPLETE ASSEMBLIES WITH DUO-FLO CONSTANT FLOW ADVANTAGE 4000 FACEPIECE	10116961	10116962	Abrasi-Blast Respirator with **Duo-Flo Constant-Flow Advantage 4000 Facepiece** Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12″ untempered glass cover lenses per cartridge), breathing tube (457158), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi.
COMPLETE ASSEMBLIES WITH ULTRAVUE FACEPIECE Assemblies can be specially ordered with different options	468716	468720	Abrasi-Blast Respirator with **Ultravue Facepiece** Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Inlet Pressure Range: 10–15 psi**.
	468718	468722	Abrasi-Blast Respirator with **Ultravue Facepiece** Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Inlet Pressure Range: 35–40 psi**.
	478116	478117	Abrasi-Blast Respirator with **Ultravue Facepiece** Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. **Abrasi-Blast Duo-Flo**.

LENS CARTRIDGES 12 cartridges per carton	473798	0.09″-thick, untempered lens; 3 per cartridge; recommended use: medium blasting
	473800	0.09″-thick, tempered lens; 3 per cartridge; recommended use: medium blasting
	10013407	0.12″-thick, untempered, laminated lens; 1 per cartridge; recommended use: heavy blasting
	473802	0.12″-thick, untempered, laminated lens; 2 per cartridge; recommended use: heavy blasting
	481742	0.12″-thick, untempered, laminated lens; 3 per cartridge; recommended use: heavy blasting

G1 Cadet Air-Supplied Respirator

The G1 Cadet is a pressure-demand, Type C supplied-air respirator with mask-mounted regulator for use in non-IDLH environments. The G1 facepiece can support multiple applications and respirator platforms including Supplied Air, SCBA, APR, and PAPR.

- The G1 Facepiece provides a wide field of view and is available with choice of rubber, polyester or Kevlar head harness to meet your specific needs such as decontamination, comfort and heat/spark resistance.
- Regulator hose lengths in either 30" or 42" lengths can accommodate front, or back positioning of the air line attachment.
- Comfortable waist belt options include secure attachment and nomex, nylon or urethane coating to meet the specific use, comfort, decontamination needs of the work environment.
- Regulator keeper on belt provides secure mounting when not in use.
- Select from a full line of fittings to meet your installation and facility needs.
- Multiple hose options and lengths to provide up to 300' of air supply.
- Compatible with multiple G1 based respirator platforms to support a complete respiratory program.

	Part No.	Waist Belt	Regulator — Hose Length	Facepiece
G1 CADET RESPIRATOR OPTIONS	10239083	Nomex	42"	G1 Medium with 5 pt. Kevlar
	10225585	Nylon		G1 Medium with Rubber
	10225594	Nylon		G1 Medium with Poly Cloth
	10225589	Nomex		None
	10225591	Nylon		
	10225593	Urethane		
	10225587	Nomex	30"	G1 Medium with 5 pt. Kevlar
	10225586	Nylon		G1 Medium with Rubber
	10225584	Nylon		G1 Medium with Poly Cloth
	10225588	Nomex		None
	10225590	Nylon		
	10225592	Urethane		

G1 Facepiece Accessories

Part No.	Description
10144230	Spectacle Kit
10144231–SP	Single Port APR Adapter
10199720	Twin Port APR Adapter
10225911	G1 Lens Cover, Clear
10225951	G1 Cover Lens, Smoke
805078	Quik-Check III Fit Test Adapter*
10056424	Advantage Fit Test Adapter**

*Single port APR Adapter Required
**Twin port APR Adapter Required

Support Belt Options

All three belts accommodate waists up to 48 inches.

Part No.	Description
494030	Nylon web support belt
492827	Polyurethane-coated nylon support belt, black
802811	Nomex support belt

Facepiece Options

Small	Medium	Large	
10188954	10188955	10188956	G1 Facepiece, 4-pt. polyester head harness
10156461	10156462	10156463	G1 Facepiece, rubber head harness
10156458	10156459	10156460	G1 Facepiece, 4-pt. Kevlar head harness
10161812	10161813	10161814	G1 Facepiece, 5-pt. Kevlar head harness

See G1 Facepiece Assemble to Order (ATO) matrix for additional options.

PremAire® Cadet Supplied-Air Respirator

- Type-C, supplied-air respirator supplies on-demand respiratory protection
- Mask-mounted regulator responds quickly to changing breathing requirements
- Maintains a slight positive pressure of air during both inhalation and exhalation
- Well-suited for chemical, petrochemical, utility and industrial applications
- For use only in non-IDLH environments

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

PREMAIRE CADET KITS		
	10108493	PremAire Cadet Air-Line Respirator with **Foster Steel** quick-disconnects, 50-foot section neoprene air-supply hose with **Foster Steel Plug**
	10108594	PremAire Cadet Air-Line Respirator with **Snap-Tite Aluminum** quick-disconnects, 50-foot section neoprene air-supply hose with **Snap -Tite Aluminum Plug**
	10108495	PremAire Cadet Air-Line Respirator with TransportAire™ Portable Air-Supply Assembly: kit includes a PremAire Cadet Respirator with Advantage 4000 Facepiece (medium size, hycar rubber, polyester net head harness) with Push-To-Connect Firehawk Regulator and nylon belt assembly, Snap-Tite Quick-Disconnect and a low-pressure TransportAire Portable Air Supply with 30-minute carbon fiber cylinder, and eight-foot coiled nylon air-supply hose

PremAire Cadet Respirator Assemblies

	Facepiece	with 30" IP (intermediate pressure) hose		with 42" IP (intermediate pressure) hose	
		no fittings	Snap-Tite AL fittings	no fittings	Snap-Tite AL fittings
PREMAIRE CADET COMPLETE ASSEMBLIES	Ultra Elite	10054790	10054792	10054791	10054793
	Advantage 4000	10081100	10081098	10081171	10081099
	Less facepiece	10121413	—	10121416	—

Facepieces for PremAire Cadet and PremAire Cadet Escape Respirators

- One-way check valve preventing exhaled air from entering mask-mounted regulator
- Rugged polycarbonate lens with scratch-resistant coating
- Mechanical speaking diaphragm for short-range communications
- Optional heat-resistant Kevlar net-style head harness

	Small	Medium	Large	
ULTRA ELITE FACEPIECES	10037650	10037648	10037652	hycar, **rubber** head harness, nosecup
	10043417	10043413	10043431	silicone, **rubber** head harness, nosecup
Push-To-Connect Adapter	10043419	10043415	10043433	hycar, **SpeeD-ON** head harness, nosecup
	10043430	10043416	10043434	silicone, **SpeeD-ON** head harness, nosecup

- Adapters available to convert to Twin-Cartridge Respirator (using Advantage Cartridges) or RD40 Facepiece
- One-way check valve preventing exhaled air from entering mask-mounted regulator
- Rugged polycarbonate lens with scratch-resistant coating

	Small	Medium	Large	
ADVANTAGE 4000 FACEPIECES	10075911	10075905	10075917	hycar, **rubber** head harness, nosecup
	10075910	10075904	10075916	silicone, **rubber** head harness, nosecup
Push-To-Connect Adapter	10075915	10075909	10075921	hycar, **polyester net** head harness, nosecup
	10075914	10075908	10075920	silicone, **polyester net** head harness, nosecup
	10108547	10108561	10108565	hycar, **Kevlar net** head harness, nosecup
	10108545	10108549	10108563	silicone, **Kevlar net** head harness, nosecup

Note: See p. 29 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 SCBA designed especially for use in and escape from IDLH atmospheres
- One-piece first-stage regulator and cylinder valve assembly
- Small size and profile are perfect for confined spaces
- Recessed pressure gauge for added protection
- Choice of cylinder hip placement for freedom and versatility

Kits include Advantage 4000 Facepiece (medium size, hycar rubber, polyester net head harness) with Push-To-Connect Firehawk Regulator and nylon harness, aluminum cylinder, and listed quick-disconnect for connecting respirator to air-supply hose, 50-foot section of neoprene air-supply hose complete with corresponding plug to attach air-supply hose to air source.

| PREMAIRE CADET ESCAPE KITS | 10108496 | PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug |
| | 10108592 | PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug |

PremAire Cadet Escape Respirators

PREMAIRE CADET ESCAPE RESPIRATORS	10087895	PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **less facepiece**, less fittings, less case
	10087897	PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **less facepiece**, less fittings, less case
	10092034	PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, Hansen brass fittings, less case
	10092036	PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, Hansen brass fittings, less case
	10093988	PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Advantage 4000 Facepiece**, hycar, polyester net head harness, less fittings, with hard case
	10093986	PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum egress cylinder, nylon strap carrier/harness, **Ultra Elite Facepiece**, hycar, rubber head harness, less fittings, with hard case
	10093987	PremAire Cadet Escape Air-Line Respirator, **10-minute** aluminum egress cylinder, nylon strap carrier/harness, **Ultra Elite Facepiece**, hycar, rubber head harness, less fittings, with hard case

The Assemble-To-Order System for PremAire Cadet Escape Respirator

Thousands of possible combinations lets you build just the right PremAire Cadet Escape Respirator for your specific job with its own distinct part number. 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 your desired specifications. Advantages of the ATO System include: you get the exact model of PremAire Respirator you need; no special orders, because all orders are customized; fresher cylinders from our continually rotated inventory; simplified ordering process; and timely delivery.

A Type

PC PremAire Cadet Escape

B Carrier & Harness Type

1 Nylon, strap carrier, standard
2 Kevlar, strap carrier, standard
3 Nylon, bag carrier, standard
4 Kevlar, bag carrier, standard
   Notes:
   Aluminum escape cylinders are not compatible with bag carriers.

C Pad Option

0 None
1 Shoulder

D Escape Cylinder

A 5-minute aluminum
B 10-minute aluminum
C 5-minute carbon
D 10-minute carbon
E 15-minute carbon
F 5-minute aluminum, less air
G 10-minute aluminum, less air
H 5-minute carbon, less air
J 10-minute carbon, less air
K 15-minute carbon, less air

E MMR Regulator

A Firehawk, pushto- connect, solid cover
C Firehawk, slideto- connect, solid cover
   Notes:
   Firehawk, slide regulators not compatible with Advantage 4000 facepiece.

F Facepiece

A None
B Ultra Elite, hycar, small
C Ultra Elite, hycar, medium
D Ultra Elite, hycar, large
E Ultra Elite, silicone, small
F Ultra Elite, silicone, medium
G Ultra Elite, silicone, large
H Advantage 4000, hycar, small
J Advantage 4000, hycar, medium
K Advantage 4000, hycar, large
L Advantage 4000, silicone, small
M Advantage 4000, silicone, medium
N Advantage 4000, silicone, large
P Ultra Elite, hycar, responder, small
Q Ultra Elite, hycar, responder, medium
R Ultra Elite, hycar, responder, large
S Ultra Elite, Hycar, responder, small, communication ready
T Ultra Elite, hycar, responder, medium, communication ready
U Ultra Elite, hycar, responder, large, communication ready

G Nosecup

0 None
1 Ultra Elite, medium
2 Ultra Elite, large
   Notes:
   Nosecup standard with Advantage 4000 facepiece.

H Head Harness

0 None
1 Ultra Elite rubber
2 Ultra Elite SpeeD-ON
3 Advantage 4000 rubber
4 Advantage 4000 Poly net
5 Advantage 4000 Kevlar net

I Quick Disconnect

0 None
A Snap-Tite, aluminum
B Snap-Tite, stainless steel
C Snap-Tite, brass
D Hansen, stainless steel
E Hansen, Brass
F Foster, steel
G Foster, stainless steel
H Foster, Brass
J Snap-Tite, locking, Aluminum
K Snap-Tite, locking, stainless steel
M Snap-Tite, locking, brass
N Foster, stainless steel
P Cejn, chrome

J Case

0 None
1 Hard plastic case

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A	PC											Qty
	A	B	C	D	E	F	G	H	I	J		Qty

PART NUMBER

MSA Airline Respirator Selection Guide

The easy-to-follow MSA Airline Respirator Selection Guide is a web-based tool designed to help configure an airline assembly starting at the PremAire Cadet Escape Respirator, and ending at the point of the attachment.

Available at: http://webapps.msasafety.com/product-selection-guide/airline/

The Assemble-To-Order System for the G1 PremAire Cadet Escape Respirator

MSA G1 Facepiece offers:
- Wide field of view, 86%
- Comfortable, robust seal geometry to help ensure secure seal every time facepiece is donned
- An open port to provide low breathing resistance, both on- and off-air

PremAire Cadet Escape Respirator with G1 Facepiece features:
- Low-profile escape cylinders that can be worn on either right or left hip, making movements easier in tight spaces
- Escape cylinders rated at 5-, 10- and 15-minutes
- Pressure gauge recessed into valve housing that protects gauge and reduces size and profile
- Two harness materials: standard nylon for chemical resistance and Kevlar for high heat environments or those with spark potential
- NIOSH approval as combination supplied-air respirator and self-contained breathing apparatus

A Type
PCG PremAire Cadet Escape G1

B Carrier & Harness Type
1 Nylon, strap carrier, standard
2 Kevlar, strap carrier, standard
3 Nylon, bag carrier, standard
4 Kevlar, bag carrier, standard
Notes:
Aluminum escape cylinders are not compatible with bag carriers.

C Pad Option
0 None
1 Shoulder

D Escape Cylinder
A 5-minute aluminum
B 10-minute aluminum
C 5-minute carbon
D 10-minute carbon
E 15-minute carbon
F 5-minute aluminum, less air
G 10-minute aluminum, less air
H 5-minute carbon, less air
J 10-minute carbon, less air
K 15-minute carbon, less air

E MMR Regulator
A G1 Regulator, purge cover

F G1 Facepiece
1 None
2 G1 Facepiece with 4-pt adjustable head harness, medium[1]
3 G1 Facepiece with 5-pt adjustable head harness, medium[1]
4 G1 Facepiece with rubber head harness, medium[1]
Notes:
If desired facepiece is not available here, choose "None" and select from the G1 Facepiece ATO.

G Quick Disconnect
0 None
A Snap-Tite, aluminum
B Snap-Tite, stainless steel
C Snap-Tite, brass
D Hansen, stainless steel
E Hansen, brass
F Foster, steel
G Foster, stainless steel
H Foster, brass
J Snap-Tite, locking, aluminum
K Snap-Tite, locking, stainless steel
M Snap-Tite, locking, brass
N Foster, stainless steel
P Cejn, locking

H Case
0 None
1 Hard plastic case

Key:
[1] Facepiece includes nosecup, but does not include neckstrap.

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A	PCG									
	A	B	C	D	E	F	G	H		Qty

PART NUMBER

G1 PREMAIRE CADET ESCAPE RESPIRATORS	10192832	G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, G1 facepiece with rubber head harness, Hansen brass fittings, with case
	10192833	G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, G1 facepeice with rubber head harness, no fittings, no case
	10192834	G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, no facepiece, no fittings, no case
	10192835	G1 PremAire Cadet Escape Air-Line Respirator, **5-minute** aluminum cylinder, nylon carrier, no facepiece, Hansen brass fittings, no case
	10167678	G1 PremAire Cadet Escape Air-Line Respirator, **15-minute** carbon egress cylinder, kevlar strap carrier/harness, G1 Facepiece, 4 pt adjustable head harness, less fittings, hard case
	10167679	G1 PremAire Cadet Escape Air-Line Respirator, **15-minute** carbon egress cylinder, kevlar strap carrier/harness, G1 Facepiece, 4 pt adjustable head harness, Hansen brass fittings, less case
	10167680	G1 PremAire Cadet Escape Air-Line Respirator, **10-minute** carbon egress cylinder, nylon strap carrier/harness, G1 Facepiece, 5 pt adjustable head harness, less fittings, less case

PremAire® Air-Supplied Respirator System

- Full-face, pressure-demand, Type-C supplied-air respirator features patented waist-mounted manifold for incredible flexibility
- Dual-supply option lets users connect from one pressurized continuous air source to another without losing continuity of airflow
- Vortex tube option delivers whole-body temperature control for added comfort
- Modular system allows user to match respiratory needs to the task at hand
- Suitable for IDLH environments (with escape cylinder option)

Assemblies come with medium hycar Ultra Elite Facepiece and nosecup with rubber harness. Quick-disconnects must be ordered separately (see page 29; you need a male plug with female 1/4" NPT (column 2), and a female socket assembly (column 5).

PREMAIRE COMPLETE ASSEMBLIES	10045164	PremAire System Complete Assembly w/ Firehawk Slide-To-Connect Regulator, **5-minute** 3AL aluminum cylinder, right-hip model, with case
with Firehawk STC Regulator	10045165	PremAire System Complete Assembly w/ Firehawk Slide-To-Connect Regulator, **10-minute** 3AL aluminum cylinder, right-hip model, with case

	Small	Medium	Large	
ADVANTAGE 4000 FACEPIECES for Firehawk PTC MMR Regulator	10075911	10075905	10075917	hycar, **rubber** head harness, nosecup
	10075910	10075904	10075916	silicone, **rubber** head harness, nosecup
	10075915	10075909	10075921	hycar, **polyester net** head harness, nosecup
	10075914	10075908	10075920	silicone, **polyester net** head harness, nosecup
ULTRA ELITE FACEPIECES for Firehawk PTC MMR Regulator	10037650	10037648	10037652	hycar, **rubber** head harness, nosecup
	10043417	10043413	10043431	silicone, **rubber** head harness, nosecup
	10037651	10037649	10037653	hycar, **EZ-Don** Head Harness, nosecup
	10043418	10043414	10043432	silicone, **EZ-Don** Head Harness, nosecup
	10043419	10043415	10043433	hycar, **SpeeD-ON** Head Harness, nosecup
	10043430	10043416	10043434	silicone, **SpeeD-ON** Head Harness, nosecup

PremAire System Upgrades

ESCAPE CYLINDER KITS	800696	Kit with fully-wound carbon fiber, **5-minute** cylinder, for right hip
Includes carrier assembly, 1st-stage regulator, hose and cylinder	800694	Kit with fully-wound carbon fiber, **5-minute** cylinder, for left hip
	800697	Kit with fully-wound carbon fiber, **10-minute** cylinder, for right hip
	800695	Kit with fully-wound carbon fiber, **10-minute** cylinder, for left hip
VORTEX TUBE KITS	800706	Kit with 6" hose, cool-only version
	801012	Kit with 12" hose, cool-only version
DUAL-SUPPLY KITS	800044	Includes 8-inch extension hose, less quick-disconnect assembly
	800986	Includes 15-inch extension hose, less quick-disconnect assembly
PREMAIRE AIR-LINE FILTER KITS	811940	Filter Kit
	811984	Replacement filter element and gasket

Escape Cylinder Kit (for right hip)

Vortex Tube Kit

Dual-Supply Kit

Air-Line Filter Kit

The Assemble-To-Order System for PremAire Supplied-Air Respirator System

A Type

PS   Prem Aire System

B Belt Assembly

1   Nylon
2   Urethane
3   Nomex

C Escape Cylinders

0   None
1   5-min right hip carbon fiber
2   5-min left hip carbon fiber
3   5-min right hip aluminum
4   5-min left hip aluminum
5   10-Min right hip carbon fiber
6   10-min left hip carbon fiber
7   10-min right hip aluminum
8   10-min left hip aluminum

D Dual-Supply

0   None
1   8" Hose less QD
2   15" Hose less QD

E MMR Regulators [2]

E   Firehawk STC 30" solid cover
F   Firehawk STC 42" solid cover
G   Firehawk PTC 30" solid cover
H   Firehawk PTC 42" solid cover
J   Firehawk STC 30" no by-pass
K   Firehawk STC 42" no by-pass
L   Firehawk PTC 30" no by-pass
M   Firehawk PTC 42" no by-pass

Notes:
Must choose No By-Pass option when ordering a PremAire less escape cylinder.
Note: Firehawk slide regulators not compatible with Advantage 4000 facepiece.

F Facepiece Type

0   None
1   Non-NFPA
2   NFPA

Notes:
NFPA facepiece is Ultra Elite (UE).

G Facepiece

0   None
1   Ultra Elite hycar
2   Ultra Elite silicone
E   Advantage 4000, hycar, poly net harness
F   Advantage 4000, silicone, poly net head harness
G   Advantage 4000, hycar, rubber head harness
H   Advantage 4000, silicone, rubber head harness
J   Advantage 4000, hycar, Kevlar head harness
K   Advantage 4000, silicone, Kevlar head harness

H Facepiece Size

0   None
S   Small
M   Medium
L   Large

I Nosecup

0   None (only if you have no facepiece)
1   UE-medium
2   UE-large

J Head Harness

0   None
1   Ultra Elite, Rubber
2   Ultra Elite, EZ-Don, small
3   Ultra Elite, EZ-Don, medium
4   Ultra Elite, EZ-Don, large
5   Ultra Elite, SpeeD-ON
6   Advantage 4000 rubber
7   Advantage 4000 poly net
8   Advantage 4000 Kevlar net

K Quick-Disconnect

A   None [1]
B   Snap-Tite alum
C   Snap-Tite SST
D   Snap-Tite brass
E   Hansen SST
F   Hansen brass
G   Foster steel
H   Foster SST
I   Foster brass
J   Cejn chrome

Notes:
[1] Unit requires use of a Quick-Disconnect to maintain approval.
Note: If you have selected the Dual-Supply option, you will need two of the same Quick-Disconnects. Just put one letter in the part number to indicate your selection, but when you calculate the price of your system, make sure you include a price for each Quick-Disconnect.

L Case

0   None
1   Hard case
2   Soft case

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.

An additional surcharge will be added to configurations that are classified as hazardous materials

Key:
[1] For applications strictly limited to non-IDLH atmospheres, NIOSH requires that the respirator system be configured without a bypass on the mask-mounted regulator (MMR). Please contact MSA Customer Service for more information.

C-PS	A	B	C	D	E	F	G	H	I	J	K	L	Qty

PART NUMBER

Air-Line Systems and Accessories
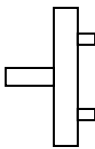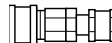
Quick-Disconnects for Air-Line Respirators and Air-Supplied Hoods

Quick-disconnect assemblies connect air-supply hoses to the manifold and to the air source.

For more information, please see MSA's Pocket Guide to Air-Line Systems (Bulletin 0114-28-MC).

Standard Air-Line Setup

Note: Respirator approvals include all fittings and hoses from the respirator up to, but not including, the manifold/point of attachment to the air source. Breathing air couplings and fittings must be incompatible with other non-respirable air or other gas systems.

Manifold/ Point of Attachment	QD 1 Female Socket 1/4" NPT	QD 2 Male Plug w/Female 1/4" NPT	QD 3 Union Adapter 1/4" NPT x 3/4" UNF	Air-Line Hose	QD 4 Female Socket Assembly	Respirator
Dual outlet shown. Images not to scale.						
Quick-Disconnects & Adapters (AL) = Aluminum (S) = Steel (SST) = Stainless Steel (BR) = Brass **Interchangeability** A B C D E F *Fittings with the same letter code are interchangeable*	Used at manifold or point of attachment to air source.	Plugs into the female socket (QD 1) at the manifold or point of attachment. Also installed on the respirator to plug into socket assembly (QD 4).	Used at the end of the air line hose to connect to the male plug (QD 2). Teflon tape used to attach to the male plug.	See air-line hose information on the following page. A maximum total 300' and 6 hose sections is allowed on most pressure demand and high pressure constant flow setups.	Used to connect air-supply hose to male plug (QD 2) on respirator.	Male plug (QD 2) connects respirator to female socket assembly.
SNAP-TITE (AL) C	66272	66274	69542		455019	
SNAP-TITE (SST) C	629673	629672	808358		471778	
SNAP-TITE (BR) C	630305	630307	69542		471777	
HANSEN (SST) A	628768	628208	808358		471779	
HANSEN (BR) D	630311	630313	69542		471501	
FOSTER (S) B	628770	55716	69542		467044	
FOSTER (SST) B	636459	636460	808358		801016	
FOSTER (BR) A	629980	629981	69542		470194	
SCHRADER (S) B	See Foster (S)	See Foster (S)	See Foster (S)		See Foster (S)	
CEJN LOCKING (CHROME-PLATED BR) E	631870	479026	69542		479001	
CEJN LOCKING (CHROME) E	—	479026	69542		476956	
SNAP-TITE LOCKING (AL) F	—	479027	69542		479032	
SNAP-TITE LOCKING (SST) F	—	479028	808358		479033	
SNAP-TITE LOCKING (BR) F	—	479029	69542		479034	
FOSTER LOCKING (SST) D	636473	637851	808358		800805	

Air-Line Systems and Accessories

Approved Air-Supply Hose (⅜" ID)

- Available in smooth, reinforced, lightweight polyvinylchloride (PVC); chemical-resistant black neoprene; or smooth, coiled nylon
- Must be used with respirators in this section to maintain NIOSH certifications

		Temperature Ranges	Brass Hose Coupling	Stainless Steel Hose Coupling	Length
NEOPRENE AIR-SUPPLY HOSE		-25° to 212°F	481071	481077	8 ft.
			455020	481078	15 ft.
			455021	481079	25 ft.
			455022	481080	50 ft.
PVC AIR-SUPPLY HOSE		32° to 120°F	481051	481057	8 ft.
			471511	481058	15 ft.
			471512	481059	25 ft.
			471513	481060	50 ft.
			484225	—	100 ft.
COILED NYLON AIR-SUPPLY HOSE		0° to 160°F	491513[1]	—	8 ft.
			491514[1]	—	15 ft.
			491515[1]	—	25 ft.
			474043[1]	—	50 ft.

[1] Recommended usable length 4–25 ft

3/4 – 16 UNF
Air hose   O-ring   Air hose

Optional Locking Quick-Disconnect Assembly
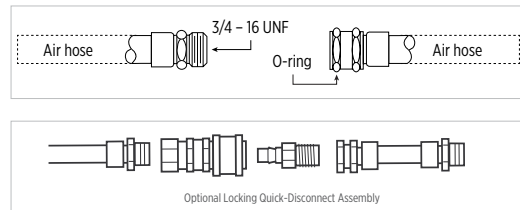
Note: Do not use non-locking quick-disconnects to interconnect air supply hoses. Locking quick-disconnects may be used or hoses may be threaded together directly as shown at left.

Locking Quick-Disconnects for Air-Supply Hose

Locking quick-disconnects are the only means to interconnect lengths of MSA air-supply hose (besides directly threading the air-supply hose together). For most systems, you can use up to 12 sections of hose to make up maximum length.

CEJN LOCKING QDs	479009	CEJN locking quick-disconnect assembly, socket and plug (CHROME)
	476956	CEJN locking female quick-disconnect socket (CHROME)
	476955	CEJN locking male (w/ male 3/4" NPT) quick-disconnect plug (CHROME)
SNAP-TITE LOCKING QDs	479010	Snap-Tite locking quick-disconnect assembly, socket and plug (AL)
	479032	Snap-Tite locking female quick-disconnect socket (AL)
	479015	Snap-Tite locking male (w/ male 3/4" NPT) quick-disconnect plug (AL)
	479011	Snap-Tite locking quick-disconnect assembly, socket and plug (SST)
	479033	Snap-Tite locking female quick-disconnect socket (SST)
	479016	Snap-Tite locking male (w/ male 3/4" NPT) quick-disconnect plug (SST)

Inlet Pressure Gauge

- Enables user to check pressure at inlet of MSA air-supply hose, thereby assuring that air pressure is within certified range

INLET PRESSURE GAUGE	476734	Inlet pressure gauge, w/Snap-Tite fitting
	476735	Inlet pressure gauge, w/Foster or Schrader fitting
	476737	Inlet pressure gauge, w/Hansen fitting
	492586	Inlet pressure gauge, less quick-disconnect[2]

[2] See chart below for quick-disconnects for inlet pressure gauge.

Quick-Disconnects & Adapters	Male Plug w/ 1/4" NPT
(AL) = Aluminum (S) = Steel (SST) = Stainless Steel (BR) = Brass **Interchangeability** A B C D E F Fittings with the same letter code are interchangeable	 Used when connecting Inlet Pressure Gauge.
SNAP-TITE (AL) C	66272
SNAP-TITE (SST) C	629673
SNAP-TITE (BR) C	630305
HANSEN (SST) A	628768
HANSEN (BR) D	630311
FOSTER (S) B	628770
FOSTER (SST) B	636459
FOSTER (BR) A	629980
SCHRADER (S) B	See Foster (S)
CEJN LOCKING (CHROME-PLATED BR) E	631870
FOSTER LOCKING (SST) D	636473

CEJN Quick-Disconnect Socket & Plug Assembly
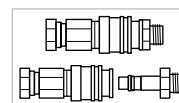
CEJN Q-D Socket
CEJN Q-D Plug

Snap-Tite Quick-Disconnect Socket & Plug Assembly
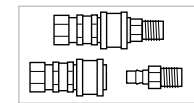
Snap-Tite Q-D Socket
Snap-Tite Q-D Plug

Air-Line Systems and Accessories

Type-C Supplied-Air Respirators, more commonly referred to as air-line respirators, are designed to provide long-duration respiratory protection. For in-depth information on these systems, please see MSA Bulletin 0114-14-MC.

Typical Plant-Suppled Air-Line Systems: Constant Flow or Pressure Demand System

* Inlet pressure gauge required if distance between regulator and manifold is 10' or greater (See p. 30)

Select One Outlet Connection:
G1, G2, or **G3**
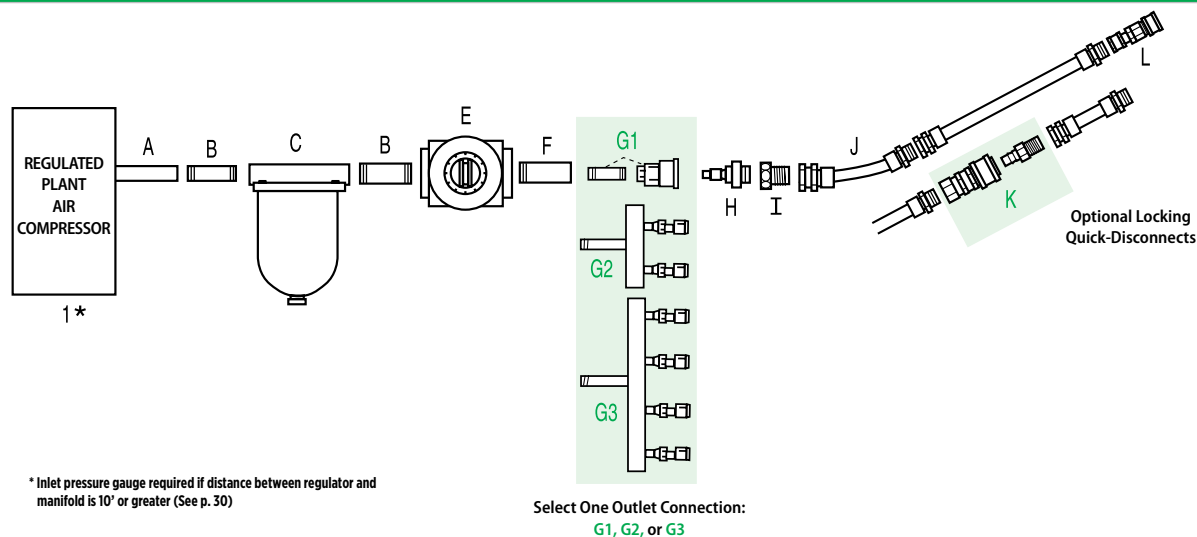
1	PLANT AIR COMPRESSOR	Not supplied by MSA
A	OUTLET FITTING FOR SYSTEM	Varies with system
B	NIPPLE	(½" x ½" x 1-½" NPT) P/N 68833
C	AIR LINE FILTER	P/N 81857
E	PRESSURE REGULATOR	P/N 66716
F	OUTLET CONNECTIONS	Bushing (½" M x ¼" F) P/N 625528
G1	FEMALE SOCKET NIPPLE	Female Socket–P/N varies with type (See p. 29–column QD 1) Nipple–¼" x ¼" 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 p. 32)
G3	4-OUTLET MANIFOLD	Foster Steel P/N 474370 Snap-Tite Aluminum P/N 93931 (See p. 32)

H	MALE PLUG WITH MALE ¼" NPT	(See p. 29–column QD 2)
I	UNION ADAPTER	(See p. 29–column QD 3)
J	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 30)
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 p. 29– column 5)

Pressure Regulator

- Used with plant air compressor system to reduce compressor pressure to desired operating pressure
- Maintains pressure on outlet side until readjusted for use with inlet pressure of up to 125 psig

PRESSURE REGULATOR	66716	Pressure regulator

Air-line Filter

- Removes minimum of 99% of 0.3 micron and larger particulates, including dusts, mists, fumes, smoke, and petroleum vapors. Does **not** remove carbon monoxide.
- Can be used at inlet pressures up to 125 psig

AIR-LINE FILTER	81857	With ½" NPT female inlet and outlet
	488041	With ¾"-16 straight threads
	484923	Replacement Filter Kit

Air-Line Systems and Accessories

Typical Cascade Cylinder Air-Line Systems: Pressure Demand System

* 2400 psig Cascade System

Select One Outlet Connection:

Sealing tape required on all pipe threads. Begin at second thread and wrap 1 to 1 1/2 turns clockwise.

Optional Locking Quick-Disconnects

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.

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 below)
E1	OUTLET CONNECTIONS	Female Socket—P/N varies with type (See p. 29); Nipple ¼" x ¼" 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 below)
E3	4-OUTLET MANIFOLD	Foster Steel P/N 47370 Snap-Tite Aluminum P/N 93931 (See below)

F	MALE PLUG WITH FEMALE ¼" NPT	P/N varies with type (See p. 29)
G	UNION ADAPTER	(See p. 29)
H	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 30)
I	OPTIONAL LOCKING QUICK-DISCONNECT ASSEMBLIES for interconnecting lengths of MSA air-supply hose	CEJN Locking Quick-Disconnect Assembly (Chrome) P/N 479009 (See p. 30) Snap-Tite Locking Quick-Disconnect Assembly (Aluminum) P/N 479010 (See p. 30)
J	FEMALE SOCKET ASSEMBLY	P/N varies with type (See p. 29)

Cascade System Accessories

• Components for assembling cascade system, which consists of bank of respirable-air cylinders (user-supplied) that supply a flow of air to pressure-demand air-supplied respirators

CASCADE SYSTEM ACCESSORIES	85078	Audi-Larm Warning Device, low-pressure CGA 346, 0–3000 psig
	492307	Audi-Larm Warning Device, high-pressure CGA 347, 0–5500 psig
	68850	Air coupler tee—low-pressure CGA 346, 0–3000 psig
	10081206	Air coupler tee—high-pressure CGA 347, 0-5500 psig
	68851	Air pigtail—low-pressure CGA 346, 0–3000 psig
	10081205	Air pigtail—high pressure CGA 347, 0-5500 psig
	68858	Air cylinder pressure regulator, dual-gauge, 0-3000 psig
	633352	High-pressure air cylinder regulator, dual-gauge, 0-5500 psig
	55716	Male air-supply hose adapter for Foster quick-disconnects (for PVC hose)
	69542	Union adapter (required to attach male plug)

Manifolds

Required when using multiple (2–4) respirators from single air source

Note: Gauge required when greater than 10' between air-line point of connection and regulator

	Manifolds	
	4-outlet	*2-outlet*
With **Foster** quick-disconnects	47370	84416
With **Snap-Tite** quick-disconnects	93931	486053
Less quick-disconnects	488914	84418

Air-Line Accessories

Industrial Air Cart

Industrial Air Cart permits up to 4 NIOSH-approved air-line respirators to be connected to 2 one-hour 4,500 psig breathing apparatus cylinders (not included). See table below for cylinder ordering information. 60-minute cylinder will provide maximum air supply.

Features
- Two-wheel poly powder-coated cart, two sets of double-cylinder straps, air-line hose rack and adjustable pull handle
- 5,500 psig pressure regulator reduces 4,500 psig cylinder air to proper air-line respirator inlet pressure
- Low-pressure cylinder alarm whistle
- An outlet pressure gauge operates in 0-125 psig range
- Four-outlet manifold is available with 4 outlet fitting options

Cart Weight and Dimensions
Size: 35″ H x 21″ W x 15.25″ D
Unit Weight: 38.5 pounds without cylinders

For more information, please see MSA bulletin 0114-28-MC.

	With **union** adapters	With **Snap-Tite aluminum** quick-disconnects	With **Foster steel** quick-disconnects	With **Hansen brass** quick-disconnects
INDUSTRIAL AIR CART	10107537	10107779	10107780	10107811

The TransportAire™ System

- Impact-resistant handle with urethane-coated nylon straps that fit around standard MSA SCBA air cylinder (purchased separately), regulator, and regulator-to-hose adapter
- Audi-Larm device provided standard on high-pressure system, optional for low-pressure system
- Designed for use with MSA supplied-air respirators equipped with dual-supply option, which improves worker mobility; workers need not remain tethered to single air-supply hose throughout work period

For more information, please see MSA bulletin 0114-21-MC.

TRANSPORTAIRE SYSTEM	812217	TransportAire Assembly, **high-pressure** (4500 psig)—complete with cylinder carrier, regulator, and regulator-to-hose adapter, and Audi-Larm low-pressure warning device
	10125955	TransportAire Assembly, **low-pressure** (2216 psig)—complete with cylinder carrier, regulator, and regulator-to-hose adapter
	85078	Low-pressure Audi-Larm assembly
	491513	8-ft. Coiled nylon hose

Cylinders

CYLINDERS	807586	**L-30*** carbon-wrapped cylinder, 30-minute NIOSH service-life rating, 2216 psig, weight (empty): 8 lb. 0 oz.
All cylinder weights shown are approximate.	816115	**L-30+*** carbon-wrapped cylinder, 30-minute NIOSH service-life rating, 3000 psig, weight (empty): 9 lb. 8 oz.
	10127944-SP	**H-30SL***, SuperLite, 30-minute NIOSH service-life rating, 4500 psig, weight (empty): 6 lb. 9 oz.
	807570	**H-45*** carbon-wrapped cylinder, 45-minute NIOSH service-life rating, 4500 psig, weight (empty): 9 lb. 7 oz.
	10127945-SP	**H-45SL**, SuperLite, 45-minute NIOSH service-life rating, 4500 psig, weight (empty): 8 lb. 8 oz.
	10127946-SP	**H-60SL***, SuperLite, 60-minute NIOSH service-life rating, 4500 psig, weight (empty): 10 lb. 12 oz.
	809872	**Aluminum** cylinder, 30-minute NIOSH service-life rating, 2216 psig, weight (empty): 18 lb. 0 oz.

These cylinders are capable of custom options. Contact MSA Customer Service at 1-800-MSA-2222 for more information. All weights approximate.

Air-Line Accessories

Breathing Air Distribution System Filtration Box

- Portable Grade-D filtration system provides breathing air for up to four air-line respirators
- Housed in a rugged polymer case
- Equipped with three-stage filtration, pressure regulator, four-outlet manifold and continuous flow 115 VAC carbon monoxide monitor
- May be used in portable or stationary position
- Two models of filtration boxes: one box provides 50 cubic feet of air per minute and second box provides 100 cubic feet of air per minute

	For use in the United States (Carbon Monoxide monitor set at 10 ppm)	For use in Canada (Carbon Monoxide monitor set at 5 ppm)	
FILTRATION BOXES 50 CFM	10107538	10113347	With **union** adapters
	10107814	10113349	With **Snap-Tite aluminum** quick-disconnects
	10107812	10113348	With **Foster Steel** quick-disconnects
	10107813	10113346	With **Hansen Brass** quick-disconnects
FILTRATION BOXES 100 CFM	10107539	10113345	With **union** adapters
	10107816	10113343	With **Snap-Tite aluminum** quick-disconnects
	10107817	10113342	With **Foster Steel** quick-disconnects
	10107815	10113344	With **Hansen Brass** quick-disconnects

OTHER REPLACEMENT PARTS AND ACCESSORIES	10108138	Upright support bracket, 50 and 100 CFM units
	10107741	Remote audible alarm with mounted visual strobe and guard, includes 50 ft. cable and 9-12 VDC
	10107527	Calibration Kit (for U.S. models), 20 ppm CO, zero air, regulator and case, 17-liter size
	10107526	Calibration Kit (for Canadian models), 10 ppm CO, zero air, regulator and case, 17-liter size
	10116617	Calibration Gas, 20 ppm CO
	10116618	Calibration Gas, 10 ppm CO
	10116619	Calibration Gas, 0 ppm CO
BREATHING AIR DISTRIBUTION SUPPLY HOSES FOR INLET PORTS from plant air system to filtration box	10113330	Hose, 50 feet, Industrial Interchange Connections, ½-inch NPT male and female
	10113341	Hose, 100 feet, Industrial Interchange Connections, ½-inch NPT male and female
	10113328	Quick-Disconnect Socket, Hansen Industrial, ½-inch male NPT
	10113329	Quick-Disconnect Plug, Hansen Industrial, ½-inch male NPT

	50 CFM	100 CFM	
FILTER CHANGE KITS	10107545	10107541	Filter Change Kit, first stage
	10107546	10107542	Filter Change Kit, second stage
	10107544	10107543	Filter Change Kit, third stage

Breathing Air Distribution System—Point of Attachment Box

- Up to four air-line respirators
- Housed in a rugged polymer case
- May be used in portable or stationary position
- Extends range of breathing air systems

	With **union** adapters	With **Snap-Tite aluminum** quick-disconnects	With **Foster steel** quick-disconnects	With **Hansen brass** quick-disconnects
POINT OF ATTACHMENT BOX	10107536	10107822	10107823	10107821

MSA
The Safety Company

TransAire® 5 and TransAire® 10 Escape Respirators

- Provides emergency air in dangerous and deadly atmospheres, including those with high concentrations of toxic gases or vapors or oxygen deficiency
- 5- and 10-minute standard-flow air supply
- One-control operation for swift exit
- Compact and lightweight for easy egress from tight spaces
- Fog-reducing hoods in urethane or Teflon easily fit over eyeglasses and facial hair
- Rugged, high-density polyethylene carrying case available
- Washable nylon cloth carrier can be worn on waist, neck or shoulder

Respirators include cylinder, carrier, hood tube, and hood assembly

TRANSAIRE 5 ESCAPE RESPIRATOR	10008292	With **aluminum** cylinder
	10066739	With **aluminum** cylinder, less air
TRANSAIRE 10 ESCAPE RESPIRATOR	10008293	With **aluminum** cylinder
	10083327	With **full -wound carbon** cylinder
	10066740	With **aluminum** cylinder, less air

Accessories

Chemical-resistant ABS plastic cases resist weathering, moisture, and corrosion to ensure escape respirators stay in ready-to-use condition

ACCESSORIES	696192	Single-unit wall-mounting case
	696193	Two-unit wall-mounting case
	10012530	Single unit carrying case, yellow polyethylene, with handle, for all escape respirators

G1 Industrial SCBA

G1 Facepiece
Lightweight & Low-Profile
- Enhance situational awareness and visibility through a wide field of view.
- Prevent potential cross-contamination when units are shared through unique mask design, which restricts exhaled air from entering the mask-mounted regulator.
- Open port design allows for lower breathing resistance both on and off air with the goal of reducing fatigue.
- Enable short-range communication with mechanical speaking diaphragm.
- Meet a variety of user needs with head harness options available in Kevlar, rubber, or polyester.

G1 Carrier and Harness Assembly
Customized Comfort & Fit
- Clean quickly with easy-to-remove soft goods.
- Improve harness durability in tough environments with nanosphere-coated webbing to improve resistance to water and chemical exposure.
- Increase comfort with optional shoulder pads and lumbar support to help reduce fatigue.
- Improve ease of donning through shoulder pad placement to reduce twisting and increase comfort.
- Choose either nylon or Kevlar harness components and cylinder bands to meet the needs of your work environment.

	Part Number	Description
G1 INDUSTRIAL SCBA **G1 iRC**	10215805	Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, hard case included
	10215806	Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, no case
	10215807	High-pressure 45-min. low-profile carbon cylinder, nylon harness with shoulder and lumbar pads, no chest strap, medium G1 Facepiece with polyester head harness, hard case included
	10215808	High-pressure 45-min. low-profile carbon cylinder, Kevlar harness with shoulder and lumbar pads, no chest strap, metal cylinder band, medium G1 Facepiece with 4-pt. Kevlar head harness, hard case included

Cylinders
- Choose from two different low-pressure (2216 psig), 30-minute-rated cylinders; or
- Four high-pressure (4500 psig) carbon-wrapped cylinders in 30-, 45- or 60-minute durations.

Cylinder Connection
Choose from a quick-connect cylinder attachment for easy change out, or standard threaded connection. The color-coded band on first stage reducer provides an at-glance indicator as to whether the system is high- or low-pressure.

Shoulder-mounted Quick-Fill® System EBS Accessory
This optional connection allows for SCBA cylinder refill from a mobile compressor or cascade system. It also allows transfilling between two SCBA wearers, providing an emergency breathing system in IDLH atmospheres.

Air-Line Attachment
The optional air-line attachment creates a second port for air-line connection to an independent air source, such as an air compressor or cascade system, to conserve cylinder air for emergency escape.

The Assemble-To-Order System for G1 Industrial SCBA

A SCBA Type

NEW G1 iRC

5 2216 w/ threaded remote cylinder connection

6 2216 w/ quickconnect remote cylinder connection

7 4500 w/ threaded remote cylind

8 4500 w/ quickconnect remote cylinder connection

B Harness Assembly

1 Nylon harness, no padding

2 Nylon harness, shoulder pads only

3 Nylon harness, lumbar pad only

4 Nylon harness, shoulder pads and lumbar pad

5 Kevlar harness, padding included

6 Reflective Kevlar with padding, adjustable lumbar

Notes:
Option 6 cannotinclude an Air-Line Attachmentfrom Column I.

C Harness Chest Strap

0 None

1 Chest strap

D Cylinder Cradle

1 Fabric band cradle

2 Metal band cradle, turn latch

3 Metal band cradle, G1 latch

E Cylinder

A None

B 3AL aluminum, 2216 psi

C 30 min carbon, 2216 psi

D 3AL aluminum, 2216 psi, less air

E 30 min carbon, 2216 psi, less air

F 30 min carbon, 4500 psi

G 45 min carbon, 4500 psi

H 45 min carbon, low profile, 4500 psi

J 60 min carbon, 4500 psi

K 30 min carbon, 4500 psi, less air

L 45 min carbon, 4500 psi, less air

M 45 min carbon, low profile, 4500 psi, less air

N 60 min carbon, 4500 psi, less air

F Cylinder Handwheel

0 None

1 Non-locking

2 Locking

Notes:
Only choose"none" if cylinder isnot being purchasedin Column E.

G MMR Regulator Type

A Continuous hose, hard cover

B Threaded hose, hard cover

C Quick connect hose, hard cover

D Universal quick connect hose, hard cover

E Continuous hose, purge cover

F Threaded hose, purge cover

H Pressure Gauge

1 Standard pressure gauge

2 Pressure gauge with Quick-Fill®

3 Pressure gauge with Quick-Fill, 3ft. hose w/Quick-Fill pouch

I Air-Line Attachment

A None

B Snap-Tite, aluminum

C Snap-Tite, stainless steel

D Snap-Tite, brass

E Hansen, stainless steel, HK Series

F Hansen, brass, 3000 Series

G Hansen, stainless steel, 3000 series

H Foster, steel

J Foster, stainless steel

K Foster, brass

L Snap-Tite, locking, aluminum

M Snap-Tite, locking, stainless steel

J Emergency Breathing System

A None

B ExtendAire® II, universal coupler, less airline adapter

C ExtendAire II, universal coupler, w/ airline adapter Snap-Tite, aluminum

D ExtendAire II, universal coupler, w/ airline adapter, Snap-Tite, stainless steel

G ExtendAire II, universal coupler, w/ airline adapter, Hansen, brass, 3000 series

T ExtendAire II, less airline adapter

U ExtendAire II, w/airline adapter, no quick-disconnect coupler

V ExtendAire II w/airline adapter, Snap-Tite, aluminum

W ExtendAire II w/airline adapter, Snap-Tite, stainless steel

Y ExtendAire II w/airline adapter, Hansen, stainless steel, HK series

K Facepiece

A None

B Small w/small nosecup, 4-pt. polyester head harness

C Small w/small nosecup, 5-pt. rubber head harness

D Small w/small nosecup, 4-pt. Kevlar head harness

E Small w/small nosecup, 5-pt. Kevlar head harness

F Medium w/medium nosecup, 4-pt. polyester head harness

G Medium w/medium nosecup, 5-pt. rubber head harness

H Medium w/medium nosecup, 4-pt. Kevlar head harness

J Medium w/medium nosecup, 5-pt. Kevlar head harness

K Large w/large nosecup, 4-pt. polyester head harness

L Large w/large nosecup, 5-pt. rubber head harness

M Large w/large nosecup, 4-pt. Kevlar head harness

N Large w/large nosecup, 5-pt. Kevlar head harness

Notes:
Regulator keeper isincluded with every unit.Facepiece clip is includedon Kevlar harnesses only.Neckstrap is not included.

L Case

0 None

1 Hard case

2 Soft case

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A-G1IN	A	B	C	D	E	F	G	H	I	J	K	L		Qty

PART NUMBER

Cylinders, Adapters & Upgrade Kits

Part Number	Description
10149701-SP	Quick-Connect adapter, 2216 PSIG
10149702-SP	Quick-Connect adapter, 4500 PSIG
10158389	Type 2 Dovetail Retainer Kit fro H30
10158390	Type 3 Dovetail Retainer Kit for H45LP
10158401	Type 4 Dovetail Retainer Kit for L30 (Aluminum or Carbon), and H45
10158402	Type 5 Dovetail Retainer Kit for H60
10193164	G1 AirHawk II, continuous hose, hard cover
10193165	G1 AirHawk II, quick-connect hose, hard cover
10193166	G1 AirHawk II, threaded hose, hard cover
Part Number	**Direct Connection Cylinders Description**
10183006	2216 PSIG, 30-min., low-pressure aluminum cylinder, threaded connection
10183005	2216 PSIG, 30-min., low-pressure carbon cylinder, threaded connection
10183007	4500 PSIG, 30-min., high-pressure carbon cylinder, threaded connection
10183008	4500 PSIG, 45-min., high-pressure carbon cylinder, threaded connection
10183009	4500 PSIG, 45-min., high-pressure, low-profile carbon cylinder, threaded connection
10183010	4500 PSIG, 60-min., high-pressure carbon cylinder, threaded connection

MSA G1 SCBA Cylinders for Threaded Remote Connection

Cylinder Pressure	Cylinder Duration	Connection Type	Air	Less Air
2216 psig	30-minute	Threaded	10156422-SP	10156431-SP
2216 aluminum	30-minute	Threaded	10213697	10213701
4500 psig	30-minute	Threaded	10156423-SP	10156432-SP
4500 psig	45-minute LP[1]	Threaded	10156424-SP	10156433-SP
4500 psig	45-minute	Threaded	10156425-SP	10156434-SP
4500 psig	60-minute	Threaded	10156426-SP	10156435-SP

MSA G1 SCBA Cylinders for Quick-Connect Remote Connection

Cylinder Pressure	Cylinder Duration	Connection Type	Air	Less Air
2216 psig	30-minute	Quick-connect	10175706	10175711
2216 aluminum	30-minute	Quick-connect	10213698	10213702
4500 psig	30-minute	Quick-connect	10175707	10175712
4500 psig	45-minute LP[1]	Quick-connect	10175708	10175713
4500 psig	45-minute	Quick-connect	10175709	10175714
4500 psig	60-minute	Quick-connect	10175710	10175715

PLEASE NOTE: Quick-connect cylinder adapter must be ordered for each cylinder separately.

Storage Cabinets

- Single-unit wall-mounting case
- Chemical resistant ABS plastic case resists weathering, moisture, and corrosion to ensure SCBA stay in ready-to-use condition

STORAGE CABINETS	10052744	Single case for SCBA supplied with LP30, HP45, HP60 and low-profile cylinders
	10052745	Single case for SCBA supplied with H30 cylinders only

[1]*Low profile version of the 45-minute, 4500 psig cylinder*

G1 Accessories

Part Number	Description
10144230	Spectacle kit for G1 Facepiece
10144231-SP	APR adapter for G1 Facepiece *(single canister)*
496081	Type H filter, 6 pack
10160594	GME P100 canister
10067469	OV/P100 canister
805078	Quick Chek® III fit test adapter
10052744	Single case for SCBA supplied with LP30, HP45, HP60, and low-profile cylinders only.
10052745	Single case for SCBA supplied with H30 cylinders only
10199720	APR Adapter, twin cartridge for G1 facepiece

G1 Facepiece

Part Number	Description
10188954	G1 Facepiece, small, 4-pt. polyester head harness
10188955	G1 Facepiece, medium, 4-pt. polyester head harness
10188956	G1 Facepiece, large, 4-pt. polyester head harness
10156461	G1 Facepiece, small, rubber head harness
10156462	G1 Facepiece, medium, rubber head harness
10156463	G1 Facepiece, large, rubber head harness
10156458	G1 Facepiece, small, 4-pt. Kevlar head harness
10156459	G1 Facepiece, medium, 4-pt. Kevlar head harness
10156460	G1 Facepiece, large, 4-pt. Kevlar head harness

See G1 Facepiece ATO for additional options.

Connected Firefighter Solution Overview

The MSA Connected Firefighter Platform is a system of devices and solutions to help keep your team safe, connected, and able to make proactive and confident decisions—on and off the fire ground. The platform is comprised of the **G1 SCBA, MSA HUB Fire Service, LUNAR® Connected Device, and FireGrid™.** The Connected Firefighter Platform is supported by our cloud connected products which enable incident management and inventory management, as well as reporting and analytics.

Incident Command

■ LOCAL MONITORING

With advancements in technology, tablet-based local monitoring extends visibility of all cloud connected users on-scene, devices being used and their associated statuses to Incident Command. With MSA's local monitoring application, FireGrid Monitor, information such as alarms, warnings, search status, estimated location, teams and air status complement existing tools, techniques, and processes to aid in more confident decision making.
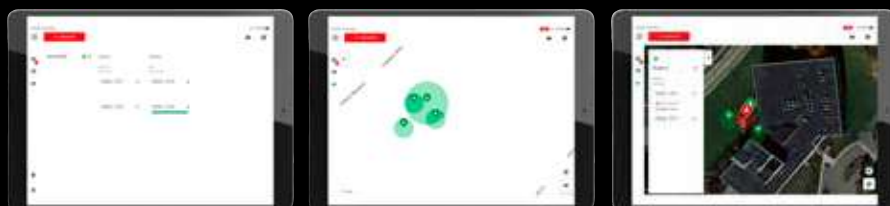
■ SEARCH AND RESCUE

When a device is in alarm, all LUNAR devices within the vicinity are notified with the personalization of the device in alarm and the reason for the alarm—motion, manual, or hardware. In addition to each team member being notified, Incident Command is also notified in FireGrid Monitor about which device is in alarm, when the search starts, and who is searching. When a search begins, the searcher is given distance and directional information in addition to having their thermal imaging. Search and rescue functionality operates on the LUNAR-to-LUNAR network and is available with or without cellular connectivity.

■ SITUATIONAL AWARENESS

LUNAR provides personal thermal imaging with edge detection to identify hot spots and ventilation points, improving situational awareness and making it easier to navigate through environments with low visibility.

FirstNet®

LUNAR is available for use on FirstNet, the only nationwide communications network built with and for first responders and those who support them.

Inventory Management Compliance

In MSA's web-based application, FireGrid Web, manage assets, work orders, purchase orders, tests, people, parts, and other details for your department. This asset management application supports MSA's SCBAs, facepieces, cylinders, HUBs, LUNARs, turnout gear, and helmets, as well as competitive turnout gear and helmets. Depending on product type, asset management will retain information such as type, model, serial number, sizing information, usage status, inspection/cleaning information, issued department/asset location, history or personnel assigned to, all aiding in compliance and data to aid in better fleet utilization.

Reports and Analytics

After-scene data is automatically sent, aggregated and stored for report generation and data analytics—device and incident information. Each reported incident is listed on the Reports page. Incidents can be filtered by date or alarm type, and reports can be created for each incident.

The MSA G1 SCBA
stands out from the crowd.

FACEPIECE

- Open port design with cross-contamination protection
- Comfortable and easy to use, with low breathing resistance on and off air
- Zero electronics, reducing weight, snag hazards and cost

SITUATIONAL AWARENESS

- Wide field of view through the G1 Facepiece
- Seven three-stage buddy lights providing 360-degree visibility of pressure status
- Highly reflective material on shoulder straps and cylinder band
- Optional integrated TIC provides visibility when it is needed most

COMMUNICATIONS

- Loud and clear communications are included with every G1 SCBA
- Intelligently removes background and inhalation noise, helping your commands to be heard
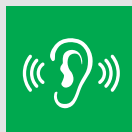
MSA G1 5500 SCBA

- Staying at the forefront of safety means constantly evolving to meet the ever-changing demands you face each day on the job. Helping meet these demands MSA's tried-and-trusted G1 SCBA now comes available in a 5500 psig operating system. The MSA G1 offers our lowest profile, most comfortable, streamlined, balanced and configurable SCBA with the lightest weight 5500 psi cylinders on the market today

READY FOR THE FUTURE

- Bluetooth connectivity, RFID, Near Field Communication (NFC), long-range radio
- Quickly update the G1 SCBA with the latest advancements through Bluetooth technology, ensuring the SCBA you buy today can easily adapt to meet your needs far into the future
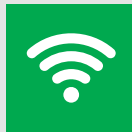
CONTROL

- Integrated Thermal Imaging Camera (TIC) allows firefighter to see within dark, smoke-filled environments
- Five user-selectable palettes— 10+ additional programmable palettes available via MSA A2 Software
- Compatible with all G1 SCBA via simple field upgrade
- Control module provides both colorLCD and analog displays
- Display automatically turns on when control module is lifted into viewing position
- No matter which button is pressed, necessary information displays
- Improved visibility through *buddy lights*

INFORMATION

- HUD provides more information than ever before and can be customized to meet your SOP; cylinder pressure, battery status, evacuation (optional), and so much more

COMFORT

- Swiveling, adjustable lumbar pad properly positions SCBA weight
- Improved comfort, balance, fit

POWER

- Single power source
- Uses alkaline or rechargeable battery
- Eliminates the need to maintain multiple battery sizes or multiple battery locations
- Low cost of ownership

BUILT JUST FOR YOU

- Control module and HUD display required information; easily customized to meet your existing standard operating procedure
- Modular designs allows for quick component change
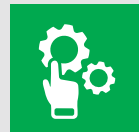
How to Order SCBA: Get the Exact Model You Need

The MSA Assemble-To-Order System (ATO) makes ordering the right mask fast and easy. Instead of choosing from a handful of complete air mask assemblies, you can order a custom-made air mask with every option exactly as desired. Contact MSA Customer Service for details.

Assemble-To-Order System for the MSA G1 SCBA

A System Pressure

2 2216 psig
4 4500 psig
5 5500 psig [1]

B Cylinder Connection

2 CGA Threaded Remote Connection
4 CGA Quick Connect Remote Connection

C Harness

1 Standard without Chest Strap
2 Standard with Chest Strap
3 Serviceable Tunnel without Chest Strap
4 Serviceable Tunnel with Chest Strap
9 Serviceable Tunnel without Chest Strap No PASS
10 Serviceable Tunnel with Chest Strap No PASS

D Cradle Type

M Metal Band

E Lumbar Type

A Adjustable Swiveling Lumbar Pad
B Basic
C Basic, Solid buckle
D Adjustable Swiveling, Solid buckle
1 Rescue Belt II Crosby Hook, 50'
2 Rescue Belt II Carabiner, 50'
3 Rescue Belt II 50' FireTech Rope, Crosby Hook
4 Rescue Belt II, 50' FireTech Rope, Carabiner
5 Rescue Belt II, Lightning Hook, 50' FireTech Rope
6 Rescue Belt II, Lightning Hook, 50' Aramid/ Nylon Rope
7 Rescue Belt II, Lightning GT Hook, 50' FireTech Rope
8 Rescue Belt II Lightning GT Hook, 50' Aramid/ Nylon Rope

F Regulator Type

1 Purge cover Left Shoulder [2]
2 Solid cover Left Shoulder [2]

G Regulator Hose Type

C Continuous
Q Quick Connect

H Emergency Breathing Support

0 None
1 Waist Mounted Quick-Fill [1]
2 ExtendAire II
3 Waist Mounted Quick-Fill and ExtendAire II [1]
4 Hose and pouch
5 Waist-mounted Quick-Fill w/hose and pouch [1]
6 ExtendAire II w/ hose and pouch
7 Waist-mounted Quick-Fill w/hose and pouch, ExtendAire II [1]
A Pouch only

J Speaker Module

L Left Chest [2]
0 None

K PASS

A PASS Right Shoulder [2]
C PASS Telemetry Right Shoulder [2]
E PASS Right Shoulder w/ Integrated TIC [2]
G PASS Telemetry Right Shoulder w/ Integrated TIC [2]
H No PASS Right Shoulder [2][4]
J No PASS Telemetry Right Shoulder [2][4]
K No PASS Right Shoulder w/ Integrated TIC [2][4]
L No PASS Telemetry Right Shoulder w/ Integrated TIC [2][4]

L Battery Type

A Alkaline
R Rechargeable [3]
   Notes:
   If Telemetry is ordered R must be selected.

Key:
[1] SCBA to SCBA Transfilling is not available with the 5500psig operating system
[2] As Worn
[3] Charger sold separately
[4] Can only be combined with Harness option 9 or 10

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A-G1FS	A	B	C	D	E	F	G	H	J	K	L		Quantity

PART NUMBER

Self-Contained Breathing Apparatus (SCBA)

Assemble-To-Order System for MSA G1 SCBA Facepiece

A Application
F   Fire

B Size
S   Small
M   Medium
L   Large

C Material
1   Hycar

D Nosecup
0   None
S   Small
M   Medium
L   Large

E Head Harness
0   None
4   4 pt Adjustable
5   5 pt Adjustable
R   Rubber

F Neckstrap
0   None
C   Cloth
R   Rubber

G Regulator Connection
1   Fixed Push-to- Connect

Note:
Part numbered facepieces are also available
An additional surcharge will be added to configurations that are classified as hazardous materials

A-G1FP			1				1		
	A	B	C	D	E	F	G		Quantity

PART NUMBER

MSA G1 SCBA Facepieces

PART NO.	Type	Size	Nosecup Size	Head Harness	ATO Configuration
10156458	Fire service	Small	Small	4-pt. adjustable	G1FP-F-S-1-S-4-0-1
10156459	Fire service	Medium	Medium	4-pt. adjustable	G1FP-F-M-1-M-4-0-1
10156460	Fire service	Large	Large	4-pt. adjustable	G1FP-F-L-1-L-4-0-1
10156461	Fire service	Small	Small	Rubber	G1FP-F-S-1-S-R-0-1
10156462	Fire service	Medium	Medium	Rubber	G1FP-F-M-1-M-R-0-1
10156463	Fire service	Large	Large	Rubber	G1FP-F-L-1-L-R-0-1
10161812	Fire service	Small	Small	5-pt. adjustable	G1FP-F-S-1-S-5-0-1
10161813	Fire service	Medium	Medium	5-pt. adjustable	G1FP-F-M-1-M-5-0-1
10161814	Fire service	Large	Large	5-pt. adjustable	G1FP-F-L-1-L-5-0-1

G1 FACEPIECE

MSA G1 SCBA Cylinders

Standard, Lightweight Carbon Cylinders

MSA Standard, Lightweight Carbon Cylinders (also known as SuperLite Cylinders) are a staple in the Fire Service. Available in 2216, 4500, and 5500 psi, these cylinders are durable and lightweight. The cylinder is wound thousands of times with high-strength carbon fibers impregnated with epoxy resin. A final over-wrap of fiberglass fibers enhances abrasion resistance. Then, a glow-in-the-dark luminescent band is applied for improved night visibility.

MSA G1 SCBA STANDARD, LIGHTWEIGHT CARBON CYLINERS

2216 psi Standard
yellow band

4500 psi Standard
green band

5500 psi Standard
blue band

G1 SCBA Cylinder Options

MSA G1 SCBA Cylinders are available for purchase in a wide variety of options and ability for customization.

Connection Type

Threaded Remote Connection

Threaded Remote Connection is available in CGA 346 (2216 psi) and CGA 347 (4500 and 5500 psi) for a traditional, thread-on connection.

Quick-Connect Remote Connection

The Quick-Connect option is available for rapid, quick changing of cylinders. The Quick-Connect Cylinders come with an installed adapter to easily push-to-connect with the remote handwheel.

Handwheel Type

Standard Handwheel

The Standard handwheel allows for simple and easy opening and closing of the cylinder valve by turning the handwheel knob.

Locking Handwheel

The Locking handwheel locks when the cylinder valve is in an open position. It requires only a simple turning motion of the handwheel to open the cylinder, but to close the cylinder valve the user must pull the handwheel outward and then turn to close.

Custom Logo

Logo Here

For easy-to-read cylinder identification, MSA can customize any G1 Cylinder to have a department's logo wrapped under the clear coat of the cylinder. This customization can be done by either a reflective or paper band in single or multi-color.

Custom Labels

Single Color
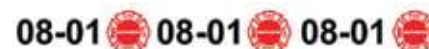
BFC BFC

Multi Color

08-01 08-01 08-01

G1 SCBA Cylinder Specs

Cylinder Pressure	Service Time	Available Breathable Air	Cylinder Height (w/Valve)	Cylinder Diameter	Cylinder Weight (Full)
Standard, Lightweight Carbon Cylinders					
30-minute Cylinders					
2216 PSI	30 Minutes	45 ft.³	22.8" (579 mm)	6.7" (170 mm)	11.3 lb. (5.1 kg)
4500 PSI	30 Minutes	45 ft.³	21.4" (544 mm)	5.4" (137 mm)	10.4 lb. (4.7 kg)
5500 PSI	30 Minutes	45 ft.³	21.0" (533 mm)	5.0" (127 mm)	9.9 lb. (4.5 kg)
45-minute Cylinders					
4500 PSI	45 Minutes *(low-profile)*	65 ft.³	23.1" (587 mm)	6.3" (160 mm)	13.9 lb. (6.3 kg)
4500 PSI	45 Minutes	65 ft.³	21.0" (533 mm)	6.8" (173 mm)	14.4 lb. (6.5 kg)
5500 PSI	45 Minutes	65 ft.³	22.7" (577 mm)	5.8" (147 mm)	13.5 lb. (6.1 kg)
60-minute Cylinders					
4500 PSI	60 Minutes	87 ft.³	23.9" (607 mm)	7.1" (180 mm)	17.2 lb. (7.8 kg)
5500 PSI	60 Minutes	87 ft.³	22.7" (577 mm)	6.7" (170 mm)	17.4 lb. (7.9 kg)

G1 SCBA Cylinder Ordering Information

MSA G1 SCBA Standard Cylinders for Threaded Remote Connection

Cylinder Pressure	Cylinder Type	Connection Type	Handwheel Type	Air	Less Air
2216 PSIG	30-minute	Threaded	Standard	10156422-SP	10156431-SP
4500 PSIG	30-minute	Threaded	Standard	10156423-SP	10156432-SP
4500 PSIG	45-minute *(low-profile)*	Threaded	Standard	10156424-SP	10156433-SP
4500 PSIG	45-minute	Threaded	Standard	10156425-SP	10156434-SP
4500 PSIG	60-minute	Threaded	Standard	10156426-SP	10156435-SP
5500 PSIG	30-minute	Threaded	Standard	10185508	10185602
5500 PSIG	45-minute	Threaded	Standard	10185509	10185603
5500 PSIG	60-minute	Threaded	Standard	10185510	10185604

MSA G1 SCBA Standard Cylinders for Quick-Connect Remote Connection

Cylinder Pressure	Cylinder Type	Connection Type	Handwheel Type	Air	Less Air
2216 PSIG	30-minute	Quick-Connect	Standard	10175706	10175711
4500 PSIG	30-minute	Quick-Connect	Standard	10175707	10175712
4500 PSIG	45-minute *(low-profile)*	Quick-Connect	Standard	10175708	10175713
4500 PSIG	45-minute	Quick-Connect	Standard	10175709	10175714
4500 PSIG	60-minute	Quick-Connect	Standard	10175710	10175715
5500 PSIG	30-minute	Quick-Connect	Standard	10181628	10181708
5500 PSIG	45-minute	Quick-Connect	Standard	10181629	10181709
5500 PSIG	60-minute	Quick-Connect	Standard	10181630	10181710

MSA G1 SCBA Standard Cylinders for Threaded & Quick-Connect Remote Connection w/Locking Handwheel

Cylinder Pressure	Cylinder Type	Connection Type	Handwheel Type	Air	Less Air
4500 PSIG	30-minute	Threaded	Locking	10191802	10191838
4500 PSIG	45-minute *(low-profile)*	Threaded	Locking	10191806	10191842
4500 PSIG	45-minute	Threaded	Locking	10191804	10191840
4500 PSIG	60-minute	Threaded	Locking	10191808	10191844
4500 PSIG	30-minute	Quick-Connect	Locking	10191803	10191839
4500 PSIG	45-minute *(low-profile)*	Quick-Connect	Locking	10191807	10191843
4500 PSIG	45-minute	Quick-Connect	Locking	10191805	10191841
4500 PSIG	60-minute	Quick-Connect	Locking	10191809	10191845

MSA G1 SCBA Eclipse Cylinders

Cylinder Pressure	Cylinder Type	Connection Type	Handwheel Type	Air	Less Air
4500 PSIG	30-minute	Threaded	Standard	10204941	10204965
4500 PSIG	45-minute *(low-profile)*	Threaded	Standard	10204945	10204969
4500 PSIG	30-minute	Quick-Connect	Standard	10204942	10204966
4500 PSIG	45-minute *(low-profile)*	Quick-Connect	Standard	10204946	10204970
4500 PSIG	30-minute	Threaded	Locking	10204943	10204967
4500 PSIG	45-minute *(low-profile)*	Threaded	Locking	10204947	10204971
4500 PSIG	30-minute	Quick-Connect	Locking	10204944	10204968
4500 PSIG	45-minute *(low-profile)*	Quick-Connect	Locking	10204948	10204972

MSA G1 SCBA Cylinder Accessories

PART NO.	Description
10149701-SP	Quick-Connect adapter for 2216 psig cylinders
10149702-SP	Quick-Connect adapter for 4500/5500 psig cylinders
10158389	Retainer kit for 4500 psig, 30-min. cylinder (type 2 dovetail)
10158390	Retainer kit for 4500 psig, 45-min. low-profile cylinder (type 3 dovetail)
10158401	Retainer kit for 4500 psig, 45-min. cylinder (type 4 dovetail)
10158402	Retainer kit for 4500 psig, 60-min. cylinder (type 5 dovetail)
10162403	Quick-Connect adapter for fill station
10183992	Kit, protective cap & boot for 30-min. cylinder
10183993	Kit, protective cap & boot for 45-min. low-profile cylinder

Cap & Boot

The Cap & Boot provide a protective rubber cover to the top and bottom of the cylinder.

Only available for Standard, Lightweight Carbon Cylinders in 30-minute and 45-minute LP 4500 psi.

MSA G1 SCBA Accessories

MSA G1 SCBA Accessories

PART NO.	Description
10148740-SP	Replacement alkaline battery pack
10148741-SP	Replacement rechargeable battery pack
10158385	Rechargeable battery charging station
10158403	Tool Kit
10083875	RFID tag
10158407	RFID reader/writer
10175010-SP	G1 Control Module w/ Integrated TIC upgrade kit - 2216 psig
10175021-SP	G1 Control Module w/ Integrated TIC upgrade kit - 4500/5500 psig

MSA G1 SCBA Facepiece Accessories

PART NO.	Description
10144230	Spectacle Kit for G1 Facepiece
10144220-SP	Replacement cloth neck strap
10159699-SP	Replacement rubber neck strap
10144231-SP	Single Port APR Filter adapter assembly
10199720	Twin Port APR Filter adapter assembly
805078	Quick Chek® III Fit Test Adapter

G1 SOFT GOODS

MSA G1 Soft Goods Kits

The G1 SCBA Soft Goods can be easily removed for enhanced cleaning protocols and provides a second set of G1 Soft Goods to reduce out-of-service time and extend the life of your SCBA's soft good components.

PART NO.	Description
10181021	G1 Soft Goods Kit (serviceable tunnel straps, basic lumbar, 4-pt harness)
10181022	G1 Soft Goods Kit (serviceable tunnel straps, swiveling lumbar, 4-pt harness)
10181023	G1 Soft Goods Kit (serviceable tunnel straps, basic lumbar, 5-pt harness)
10181024	G1 Soft Goods Kit (serviceable tunnel straps, swiveling lumbar, 5-pt harness)

Self-Contained Breathing Apparatus (SCBA)

MSA Rescue Belt II System for MSA G1 SCBA

MSA's innovative device for emergency egress, the Rescue Belt II System for the G1 SCBA, is an integrated personal escape system that allows firefighters to rappel to safety should they become trapped in a building's upper level. G1 Rescue Belt II System is NFPA 1983-certified for use as a personal escape system for emergency escape when installed on MSA-approved air masks. Device can also be used as a standalone product when not installed on an air mask. The Rescue Belt II System can be ordered as an MSA G1 SCBA option or as an individually-sold component for upgrade of your existing MSA G1 SCBA.

Ergonomically-contoured Ara-Shield rescue belt pouch stores:
- 50-ft. FireTech 32 rescue rope
- Auto-locking Sterling F4 Descender
- Choice of Crosby, Lightning, Lightning GT hook, or carabiner

MSA RESCUE BELT II SYSTEM

Rope	Connectors			
50-ft. FireTech 32 / 50-ft. MSA SafeTech	Crosby hook	Carabiner	Lightning hook	Lightning GT hook
50-ft. FireTech 32	10173088	10173089	10173090	10173101
50-ft. MSA SafeTech	10173102	10173103	10173104	10173105

MSA Accountability System

A new way to monitor vital information
- Each MSA HUB can monitor as many as 50 firefighters; multiple HUBs can be used on a single computer.
- MSA G1 SCBA Air Mask with telemetry transmits to incident command the firefighter's name, team assignment, cylinder pressure, service-time remaining, PASS alarms (motion or manual), thermal alarms, battery status, radio connectivity, and evacuation acknowledgement.

A fireground management system
- Personalized ID tags for each firefighter tell incident command exactly who is on scene.
- Integrated PAR (personnel accountability report) timer helps manage radio calls to each team.
- Incident command can manually add firefighters who are not wearing SCBA or mutual aid firefighters, so all personnel can be accounted for.

Intuitive and easy to use
- Assign firefighters to teams by clicking on firefighter's icon and dragging to appropriate team.
- Critical information is available at a screen glance due to large number of firefighters that can display, as well as pictorial information format.
- Receive both audible and visual indications of critical events such as PASS alarms or low-pressure alarms.

Two-way evacuation feature
- Individual firefighter, team of firefighters or all firefighters can be evacuated with click of a button.
- When incident command transmits an alarm through MSA G1 SCBA Air Mask, they'll know that the firefighter received it, as unit automatically sends confirmation message to the HUB.
- Firefighters hear evacuation alarm on their personal PASS devices. Visual HUD indications and control module icon alert firefighter that it is time to evacuate.
- By simply pressing control module, firefighters can send manual confirmation to acknowledge that they have received and understand critically important evacuation message.
- Although certain concrete and steel commercial structures can challenge any radio signal, MSA's Accountability System coverage with radio technology provides highly reliable performance for one-mile line-of-sight range.
- Due to spread-spectrum design, system does not interfere with other high-band radio frequency equipment.
- For additional safety, both HUB and firefighter modules have icon message to inform users if firefighter leaves radio signal range, so that alternate accountability measures, such as voice contact with teammates, can be taken.

MSA HUB Fire Service and Replacement Parts

PART NO.	Description
10197700	MSA HUB Fire Service – US
10201790-SP	Wall power supply
10204998-SP	Power cable for car installation (82 ft./25 m)
10201801-SP	Multi antenna with antenna cable for car installation (9.8 ft./3 m)
10201944-SP	LRR antenna for car installation
10205446-SP	Antenna cable for LRR antenna (10 ft./3 m)

MSA HUB Fire Service Accessories

PART NO.	Description
10195741-SP	Ethernet kit (Fire Service Standard)
10195743-SP	Ethernet cable, 66 ft./20 m (Fire Service)
10195747-SP	Ethernet cable, 16 ft./5 m (Fire Service)
10203364	Wall brackets (all)

MSA G1 Rescue Breathing Options

MSA G1 ExtendAire™ System

The all new MSA G1 ExtendAire II System is a Universal Emergency Breathing Supply System (UEBSS) accessory that uses intermediate pressure air to provide firefighters with emergency breathing air.

The G1 ExtendAire II System allows firefighters to quickly and easily interconnect to a fellow firefighter's air supply. The ExtendAire II System integrated into the G1 SCBA, providing mobility and easy access during emergency situations.The system uses locking quick-connects with integrated check valve.

The new MSA G1 ExtendAire II System features an integrated rescue hose and manifold assembly that uses both male and female quick-connect fittings. The system is stowed in a low-profile pouch that mounts on the carrier assembly, positioned to help prevent snagging and accidental opening.

MSA G1 EXTENDAIRE SYSTEM

Approvals & Standards

The G1 ExtendAire II is NIOSH approved and NFPA 1981-2018 edition compliant.

EXTENDAIRE II SYSTEM	G1 ExtendAire II can be configured on the purchase of a new G1 SCBA or by installing a field upgradeable conversion kit.	
	PART NO.	**Description**
	10205767	G1 ExtendAire II System Conversion Kit, UEBSS, 2018 Ed.
	10203820	Replacement pouch for G1 ExtendAire II System, UEBSS, 2018 Ed.
	10156464	G1 ExtendAire II System Conversion Kit, 2013 Ed.
	10156466-SP	Replacement pouch for G1 ExtendAire II System, 2013 Ed.

MSA G1 Airline Capabilities

The MSA G1 ExtendAire II also provides an airline solution for quick connection at emergency events requiring an extended air supply like bucket operations, Hazmat or confined spaces. An airline adapter connects to the ExtendAire II manifold assembly, to provide external air from distances up to 300 feet away.

AIRLINE ADAPTERS FOR EXTENDAIRE II SYSTEM	PART NO.	Description
	10188834	Airline Adapter, Snap-Tite Aluminum, ExtendAire II, UEBSS
	10188835	Airline Adapter, Snap-Tite Stainless Steel, ExtendAire II, UEBSS
	10188836	Airline Adapter, Snap-Tite Brass, ExtendAire II, UEBSS
	10188837	Airline Adapter, Hansen Stainless Steel, ExtendAire II, UEBSS
	10188838	Airline Adapter, Hansen Brass, ExtendAire II, UEBSS
	10188840	Airline Adapter, Foster Steel, ExtendAire II, UEBSS
	10188841	Airline Adapter, Foster Stainless Steel, ExtendAire II, UEBSS
	10188842	Airline Adapter, Foster Brass, ExtendAire II, UEBSS
	10188843	Airline Adapter, Steel, Locking, Aluminum, ExtendAire II, UEBSS
	10188844	Airline Adapter, Steel, Locking, Stainless Steel, ExtendAire II, UEBSS
	10188845	Airline Adapter, Steel, Locking, Brass, ExtendAire II, UEBSS
	10188846	Airline Adapter, Foster, Locking, Stainless Steel, ExtendAire II, UEBSS
	10188847	Airline Adapter, Ceijn, Locking, ExtendAire II, UEBSS

MSA G1 Quick-Fill System

The Quick-Fill System lets MSA air mask users refill and transfill air cylinders[1] while SCBA is worn, without removing the air cylinder—even in IDLH atmospheres. Use this MSA option to:

• Fill SCBA cylinder from a mobile compressor or cascade system in less than a minute.

• Transfill between two cylinders, providing emergency breathing system.[1]

• Extend air supply over longer durations, using a remote compressed-air source.

Air masks compliant to recent NFPA standards have Quick-Fill System URC fitting located at the Audi-Larm Audible Alarm warning device. Quick-Fill System hose with quick-disconnect connects air source to adapter for air transfer. See Bulletin 0105-92-MC for a Quick-Fill System Q&A.

[1]SCBA to SCBA Transfilling is not available with the 5500 psig operating system

	PART NO.	Description
MSA G1 QUICK-FILL SYSTEM REPLACEMENT PARTS	10156465	Waist-mounted Quick-Fill **for MSA G1 SCBA**
	10156467	Replacement Quick-Fill pouch **for MSA G1 SCBA**
	10156468	3-ft. Quick-Fill hose in pouch **for MSA G1 SCBA**
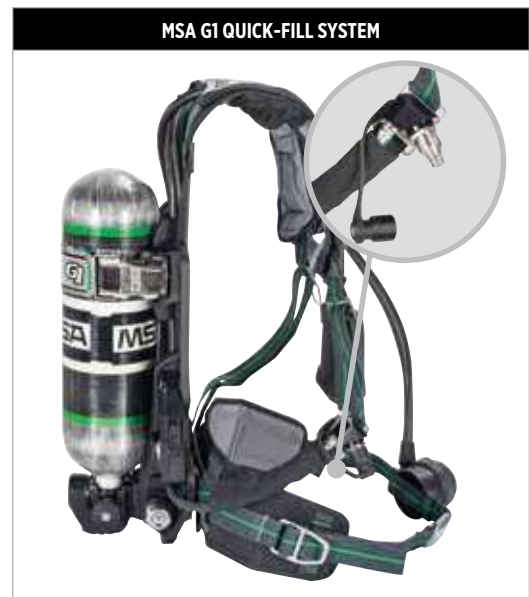
	25-ft.	12-ft.	10-ft.	8-ft.	6-ft.	3-ft.	Fittings
QUICK-FILL SYSTEM HOSES	485332	802690	802689	802688	802687	485331	FQD x FQD
	487907	802677	802675	802673	802671	492796	FQD x CGA-347 outlet
	487909	802685	802683	802681	802679	487427	FQD x CGA-347 CN
	487906	802704	802703	802702	802701	802705	FQD x SAE-4
	487908	802678	802676	802674	802672	492797	FQD x CGA-346 outlet
	487910	802686	802684	802682	802680	487428	FQD x CGA-346 CN

25-ft. lengths are stocked; custom lengths are available on special material basis. All SAE fittings are for high-pressure service. Female quick-disconnect fittings have dust covers.

RescueAire™ II Portable Air-Supply System

The MSA G1 RescueAire II System provides Rapid Intervention Teams (RITs) and firefighters with emergency breathing air within almost any situation quickly and easily. Versatile system enables selection of the right option for your application, including capability of supplying emergency breathing air to trapped firefighters wearing SCBA with compatible system(s). Built for extreme fire service conditions, G1 RescueAire II System is available in two operating pressures, 2216 and 4500 psi. Optional-use shoulder strap provides hands-free carrying.

G1 RescueAire II System incorporates a G1 Regulator, allowing a RIT team to provide air to a downed firefighter wearing a G1 Facepiece. Feature-packed system consists of G1 Cylinder, Quick-Fill® emergency breathing system (EBS), ExtendAire™ System EBS, and G1 Regulator (The G1 Regulator connects directly to the MSA G1 Facepiece for maximum rescue capability), supported by a flame- and heat-resistant carrying harness.

G1 RescueAire II System features include:

• 36″ Quick-Fill System EBSS Connection

• ExtendAire System EBSS Connection

• G1 PR-14 Pressure Reducer

• G1 Regulator

• Carrying harness with adjustable shoulder strap

• Audi-Larm™ Audible Alarm low pressure warning device

	PART NO.	Description
MSA G1 RESCUEAIRE SYSTEM	10161130	RescueAire II System, Snap-Tite, 4500, 60-min cylinder
	10207540	RescueAire II System, UEBSS, 4500, 60-min cylinder
	10161142	RescueAire II System, Snap-Tite, 4500, less cylinder
	10207542	RescueAire II System, UEBSS, 4500, less cylinder
	10161141	RescueAire II System, Snap-Tite, 2216, 30-min cylinder
	10207541	RescueAire II System, UEBSS, 2216, 30-min cylinder
	10161143	RescueAire II System, Snap-Tite, 2216, less cylinder
	10207543	RescueAire II System, UEBSS, 2216, less cylinder

MSA G1 RIT System

The G1 RIT System provides multiple options for RIT response. Internal pneumatics include G1 RIT System quick-connect pressure reducer that mounts directly onto user-supplied SCBA cylinder. Available in 2216, 4500, and 5500 psi operating pressures, cylinders are sold separately.

G1 RIT System features include:

- Six-foot high pressure supply line that terminates with female Quick-Fill System fitting
- Six-foot intermediate pressure supply line that terminates with ExtendAire II System manifold assembly
- Quick-connect second-stage G1 MMR

- Remote external gauge for easy cylinder pressure readings
- Medium size G1 Facepiece with four-point SpeeD-ON® Head Harness
- URC fitting on G1 RIT System pressure reducer that allows for interconnection of G1 RIT Systems

MSA G1 RIT SYSTEM	This RIT system does NOT include cylinder. Please see cylinder ordering information on p 43–45.	
	PART NO.	**Description**
	5500 PSI OPERATING PRESSURE	
	10206312	G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick- Connect
	10197179	G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect
	4500 PSI OPERATING PRESSURE	
	10206311	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Thread Connect
	10206313	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect
	10169711	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect
	10192465	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Thread Connect
	2216 PSI OPERATING PRESSURE	
	10206310	G1 RIT System, 2216, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect
	10169710	G1 RIT System, 2216, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect

Technical Rescue Cart

Technical Rescue Cart is of steel construction with color-designated control panel that allows one side of panel to be used for primary respirator breathing-air and one side for tool/secondary air requirements.

Two one-hour cylinders provide air for respirators. High-pressure cascade (fire truck) cylinder air is used to operate pneumatic tools.

Features

Breathing-air segment includes:
- Two-wheeled, poly-coated steel cart, two sets of double-cylinder straps, air-line hose rack, and adjustable pull handle
- Low-pressure cylinder bell alarm
- Four-outlet manifold—available with four outlet fitting options

Tooling-air segment includes:
- CGA-347 fitting to attach to auxiliary remote high-pressure air source
- Low-pressure pneumatic alarm whistle
- Four-outlet manifold with quick-disconnects

Technical Rescue Cart is sold without air cylinders. These MSA cylinders can be used with cart:

- 60-minute, H-60SL carbon-wrapped cylinder, PN 10127946-SP
- 45-minute, H-45SL carbon-wrapped cylinder, PN 10127945-SP
- 30-minute, H-30SL carbon-wrapped cylinder, PN 10127944-SP
- 45-minute, H-45S SL SuperLite Carbon Cylinder, short, PN 10149432-SP

See pp. 43–45 for cylinder ordering information. 60-minute cylinders provides maximum air supply.

TECHNICAL RESCUE CART

Cart Weight and Dimensions
Size: 35" H x 21" W x 15" D

Unit weight: 54.5 lbs. without cylinders

TECHNICAL RESCUE CART	PART NO.	Description
	10107535	Technical Rescue Cart equipped with **union** adapters
	10107818	Technical Rescue Cart equipped with **Snap-Tite aluminum** quick-disconnects
	10107820	Technical Rescue Cart equipped with **Foster steel** quick-disconnects
	10107819	Technical Rescue Cart equipped with **Hansen brass** quick-disconnects

Field Maintenance and Repair

MSA offers a complete program for maintenance and repair of MSA air masks. The program is supported with personalized training tailored to customer needs and taught in the field by MSA-authorized personnel.

User maintenance covers procedures necessary to conduct general cleaning, inspection and limited maintenance in accordance with the Occupational Safety and Health Administration (OSHA), National Fire Protection Association (NFPA) and American National Standards Institute (ANSI) standards.

C.A.R.E. Certified Air Mask Repair Education covers all maintenance for both low- and high-pressure SCBA. Air mask inspection and maintenance can be performed by MSA or a factory-authorized service center. Individuals can also obtain training for C.A.R.E. certification from MSA. With a C.A.R.E-certified technician on staff, fire departments and other facilities with a large number of air masks can perform all inspection and maintenance in-house.

- All repairs and maintenance can be done in the field.
- A selection of overhaul kits, spare parts and tool kits is available.
- Users may conduct periodic performance testing using an authorized MSA regulator tester.

THE WORLD CLASS
AIR MASK MAINTENANCE
TRAINING PROGRAM

Certified
AirMask
Repair **MSA**
Education

Cleaning Accessories

CLEANER AND TOWELETTES	PART NO.	Description
	10009971	MSA Confidence Plus 2 Germicidal Cleaner, 32 oz. bottle
	697383	Box of 100 individually wrapped towelettes, 7¼" x 5"
	697382	Canister with 220 towelettes, 4¼" x 6"
	10022871	The Big Ones box of 50 individually wrapped towelettes, 8" x 11"

G1 CLEANING	PART NO.	Description
	10207584	G1 Washing and Decon Kit

G1 WASHING AND DECON KIT

- Clean your entire G1 SCBA (including cylinder and facepiece) in a qualified SCBA Washing Machine*
- Solo Rescue and Meiko are qualified manufacturers to clean the G1 SCBA

Other SCBA Accessories

Air pigtail

Air coupler tee

High-pressure filling hose

	PART NO.	Description
ACCESSORIES FOR FILLING LOW-PRESSURE CYLINDERS	68846	Air outlet connection, complete w/ gauge
	68850	Air coupler tee
	68851	Air pigtail
	476156	Low-pressure air-filling hose, 5-ft.
HIGH-PRESSURE FILLING HOSE	476105	High-pressure filling hose assembly (provides convenient means to connect and charge high-pressure air into high-pressure 4500 psig cylinder)

* Internal testing determined no degradation of the G1 SCBA after 180 wash cycles.

Gas Detection

MSA Connected Work Platform
Multigas Portable Gas Detection
Single-Gas Portable Gas Detection
Calibration
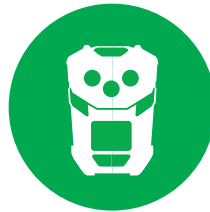
MSA Connected Work Platform

The MSA Connected Work Platform builds connections between workers and worksites, providing actionable data that helps safety managers create safer and more efficient work environments.

ALTAIR io™ 4 Gas Detection Wearable
Tough. Intuitive. Connected.

With fully integrated cellular connectivity right out-of-the-box, the ALTAIR io 4 delivers real-time visibility to help drive safety and productivity across workers, worksites, and workflows.

ALTAIR io 4 features:

- Available through MSA+, our comprehensive subscription program including hardware and software, gives you access to powerful cloud-based solutions enabling faster implementation, increased warranty coverage and automatic software and firmware upgrades —with minimal capital expense.
- Designed with fully integrated connectivity for real-time visibility across your worksites from Day One.
- CAT-M LTE cellular connectivity and integration with the MSA Grid.
- Deploys in seconds, right out of the box. No IT required.
- Rugged, durable design and Industry-Leading XCell® Sensors.
- Survives a 25-foot drop test. Breakthrough sensor design enables faster response and shorter span calibrations.
- 1 to 4 gas options available. Sensor Options: Combustible (LEL), Oxygen, Carbon Monoxide, Hydrogen Sulfide, Methane, Sulfur Dioxide, Nitrogen Dioxide, H_2S Low-Concentration, CO, Hydrogen-Resistant SO_2.

The ALTAIR io 4 is part of the **MSA Connected Work Platform**, which helps to simplify safety, curb risk, and boost productivity.

Zero-Effort, Cloud Compliance

Out of the box and into the cloud. All device data streamed instantly and securely to the cloud and available anytime on the MSA Grid.
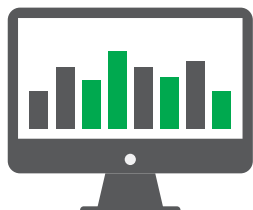
Proactively Manage Your Fleet

Your safety should be about progress, not pain. Take control of your fleet with one-click configuration updates and real-time, actionable data at your fingertips.
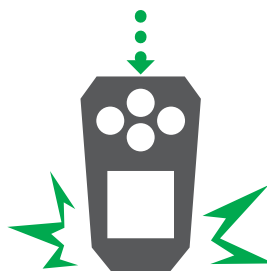
Designed to be Workproof

A device as rugged as your work. Patented, rugged sensor technology that leads the industry in response time and lifetime, military-grade durability, and the ability to survive a 25 ft. (7.6 m) drop test.

Monitor Your Workforce & Worksite Safety in Real-Time

Know when, where, and who in real-time. With connectivity to the cloud, integrated GPS, and seamless MSA id™ digital device assignment, your safety program has a level of visibility its never had before.

Build your safety program with the simplicity of an MSA+ subscription.

MSA+ gives you access to powerful cloud-based solutions enabling faster implementation, increased warranty coverage, and automatic software and firmware upgrades—with minimal capital expense.

Zero Up-Front Capex Expense

Skip the capital expenditure process and up-front purchase of devices and get your gas detection program approved and running quickly.

Always Under Warranty

While you're a subscriber, you're covered under warranty regardless of the age of the device. Peace of mind and less hassle.

Better with Time

Features and functionality routinely released to improve your safey program. And you're never stuck with old devices—upgrade to latest generation devices with every subscription renewal.

How it Works

We have a range of packages to suit your safety program's needs.

What's Included

ALTAIR io 4	Grid	MSA id Tag

Packages

	Starter	Standard	Complete
Grid Compliance Service			
Cellular Connectivity	✔	✔	✔
Emergency Live Monitor	✔	✔	✔
OTA Software Updates	✔	✔	✔
MSA id Digital Device Assignment	✔	✔	✔
Fleet Cloud Configuration	✔	✔	✔
Cloud Logs*	Lifetime	Lifetime	Lifetime
Grid Fleet Manager Service			
Fleet Manager Dashboard	—	✔	✔
Streamlined Device Compliance	—	✔	✔
Fleet Manager Reporting	—	✔	✔
ALTAIR io DOCK Monitoring	—	✔	✔
Grid Live Monitor Service			
Full Event Live Monitoring	—	—	✔
Shared Alerts	—	—	✔
Live & Historical Location Monitoring	—	—	✔
Event Management	—	—	✔
Location Awareness	—	—	✔
Mobile Notifications	—	—	✔

While under an active Grid subscription

ALTAIR io™ Accessories & Services

Accessories

ALTAIR io DOCK

Plug & Play With Automated Testing

Plug the system in and get going—no networking required. And with the smarts of the ALTAIR io 4 Device, the correct test starts automatically.

Monitor Your Systems Effortlessly in the Cloud

The ALTAIR io 4 Device is your cloud connectivity to the ALTAIR io DOCK Test Stand without any networking required. Know your calibration gas needs across your entire fleet.

ALTAIR io CHARGE

Zero-Interaction Digital Device Return

When you place an ALTAIR io 4 Device in the charger, it is marked as returned to the company in the Fleet Management System.

Organize & Charge Your Fleet in a Compact Design

The ALTAIR io 4 Multi-Device Charger's wall-mountable five-bay design provides an organized home for every device in your fleet.

Services

AutoFill Calibration Gas

Calibration gas shows up when you need it—fully automated. Monthly cost includes order, delivery, and calibration gas.

Learn more at: *https://us.msasafety.com/connected-work/msa-plus*

ALTAIR® 5X, ALTAIR® 5X PID, and ALTAIR® 5X IR Multigas Detectors

- Built upon durability
- Powered by performance
- Flexibility & connectivity
- Industry-first man-down alarm
- Industry-leading warranty
- Online product simulation and training

XCell® SENSORS

	ALTAIR 5X MULTIGAS DETECTOR

monochrome screen shown

	ALTAIR 5X PID MULTIGAS DETECTOR

available with color screen only

	Description	UL P/N	CSA P/N
INSTRUMENT ONLY KITS	ALTAIR 5X Detector **Monochrome**, (LEL, O_2, CO, H_2S)	10116924	10115118
	ALTAIR 5X Detector **Monochrome**, (LEL, O_2, CO, H_2S, SO_2)	10116925	10115119
	ALTAIR 5X Detector **Monochrome**, (LEL, O_2, CO, H_2S, PID)	10165445	
STANDARD KITS monochrome display, 10-ft sampling line, 1-ft probe	ALTAIR 5X Detector **Monochrome**, (LEL, O_2, CO, H_2S)	10116926	10115120
	ALTAIR 5X Detector **Monochrome**, (LEL, O_2, CO, H_2S, SO_2)	10116927	10115141
DELUXE KITS color display, 10-ft sampling line, 1-ft probe	ALTAIR 5X Detector **COLOR**, (LEL, O_2, CO, H_2S, PID)	10165446	

ALTAIR 5X Multigas Detector Sensor Options

Gas Type	Range	Resolution			
Combustible	0-100% LEL	1% LEL	**Nitrogen Dioxide (XCell)**	0-50 ppm	0.1 ppm
Combustible	0-5% Vol, CH_4	0.05% Vol CH_4	**Chlorine Dioxide**	0-1 ppm	0.01 ppm
Oxygen	0-30%Vol	0.1%Vol	**Phosphine**	0-5 ppm	0.05 ppm
Carbon Monoxide	0-2000 ppm	1 ppm	**Hydrogen Cyanide**	0-30 ppm	0.5 ppm
Carbon Monoxide	0-10,000 ppm	5 ppm	**Carbon Dioxide, CO_2**	0-10%Vol	0.01%Vol
Hydrogen sulfide	0-200 ppm	1 ppm	**Butane, C_4H_{10}**	0-25%Vol	0.1%Vol
Hydrogen Sulfide - LC	0-100 ppm	0.1 ppm	**Methane, CH_4**	0-100%Vol	1%Vol
Sulfur Dioxide	0-20 ppm	0.1 ppm	**Propane, C_3H_8**	0-100%Vol	1%Vol
Chlorine	0-10 ppm	0.05 ppm	**Propane, C_3H_8**	0-100% LEL	1% LEL
Ammonia	0-100 ppm	1 ppm	**PID - 10.6EV**	0-999 ppm	0.1 ppm
Nitrogen Dioxide	0-20 ppm	0.1 ppm	**PID - 10.6EV**	1000-2000 ppm	1 ppm

ALTAIR® 5X Multigas Detector with PID option

Certifications/Approvals			
USA	Class I, Division 1, Groups A, B, C & D Class II, Division 1, Groups E, F & G Class III, Division 1 Ambient temperature: -40˚C to +50˚C; T4 　ALTAIR 5X Multigas Detector with alkaline 　battery pack T3/T4 　ALTAIR 5X or ALTAIR 5X iR Multigas Detector with 　rechargeable battery pack T4	**CANADA**	Class I, Division 1, Groups A, B, C & D CAN/CSA C22.2 No. 152 Combustible Gas Detection Instruments C22.2 No. 152 Performance Ambient Temperature: -20˚C to +50˚C C22.2 No. 157 Intrinsic Safety Ambient Temperature: -40˚C to +50˚C 　ALTAIR 5X Multigas Detector with alkaline battery pack T3/T4 　ALTAIR 5X or ALTAIR 5X iR Multigas Detector with rechargeable 　battery pack T4

ALTAIR 5X Assemble-To-Order (ATO) Options

To select your configuration, select instrument options and mark the code in the selection boxes at the bottom. Check MSA24 for additional options.

A INSTRUMENT TYPE

All ALTAIR 5X Multigas Detectors come standard with data logging and MotionAlert and InstantAlert features. Choose your instrument type, equipped with internal pump. The monochrome full-graphic display is standard; a high-resolution crystal-clear color display with logo customization is optional.

A Pumped with monochrome display
B Pumped with color display
D Pumped with color display for PID (unit must be configured with PID sensor)

B COMBUSTIBLE SENSOR

Choose your combustible sensor calibration. To select 0-100% LEL pentane, please choose L; for 0-5% Vol methane choose M. For no combustible sensor, select 0 for none.

0 None
L LEL 1- 100% pentane
M 0-5% Vol methane

C SENSOR #1

To have an oxygen sensor installed in your new ALTAIR 5X Multigas Detector, please select K; if you plan on configuring the ALTAIR 5X Detector with two exotic sensors with CO/H2S, please select 1 for both CO and H2S sensors; for no sensor enter 0. NOTE: Please go to www.msasafety.com and navigate to the ALTAIR 5X product page. There you can click on and use the Configure This Product tool to determine which sensor combinations are allowed in configuring an ALTAIR 5X. For example, you can not combine NH3 and Cl2 sensors in one ALTAIR 5X.

0 None
K Oxygen 0-30%
1 CO/H2S 0-1999 ppm & 0-200 ppm
2 CO 0-1999 ppm
3 H2S 0-200 ppm
4 CO/H2S-LC 0-1999 ppm & 0-99.9 ppm
5 CO-HC 0-10,000 ppm
6 CO/NO2 0-1999 ppm & 50 ppm
7 CO H2-ResH2S 0-1999 ppm & 0-200 ppm

D SENSOR #2

Choose your toxic gas sensor.

0 None
A SO2 0-20 ppm
B Cl2 0-10 ppm
C NO2 0-20 ppm
D NH3 0-100 ppm
E PH3 0-5 ppm
F HCN 0-30 ppm
G ClO2 0-1 ppm
H NO 0-200 ppm

E SENSOR #3

Choose your additional toxic gas sensors.

0 None
1 CO/H2S 0-1999 ppm & 0-200 ppm
2 CO 0-1999 ppm
3 H2S 0-200 ppm
4 CO/H2S-LC 0-1999 ppm & 0-99.9 ppm
5 CO-HC 0-10,000 ppm
6 CO/NO2 0-1999 ppm & 50 ppm
7 CO H2-ResH2S 0-1999 ppm & 0-200 ppm
A SO2 0-20 ppm
B Cl2 0-10 ppm
D NH3 0-100 ppm

F ADVANCED SENSOR

Add your advanced IR or PID sensor to complete your sensor suite in the ALTAIR 5X Multigas Detector. Combustible sensors are not available with CSA performance approvals.

0 None
1 10.6eV 0-2000 ppm
B CO2 0-10% Vol
D Butane 0-25% Vol
F Propane 0-100% Vol
L Methane 0-100% Vol

G PACKAGING

For an economy plastic carrying case, choose E; for red, choose R; for standard carton packaging, choose 0.

0 Standard carton
E Economy plastic
R Red economy

H APPROVAL LABEL

Choose the applicable approval label for your area. For North America, choose C, for Europe choose E, for Australia, choose A.

C NORTH AMERICA
T UL only (no catalytic combustible sensor in unit)
E Europe ATEX
A Australia

I LOGO EXPRESS® SERVICE

Upon startup, the ALTAIR 5X Multigas Detector can display your company logo or other information. Be sure to select color display for this option. To add your company logo, choose L and upload your logo to the web address which will be sent automatically to you via email. Your order with customized logo cannot be processed without uploading your logo.

0 None
L Logo Express Service

J SAMPLING LINE AND PROBE KIT

MSA's quality sampling lines and probes are durable, easy to use and offer high speed and convenience using our quick-connect fittings. If you are sampling Cl2, ClO2 and/or NH3, please select option 2; for all other gases select options S or 1. Options 1 and 2 come with quick disconnect sampling lines and probes. For no sampling line or probe, select 0.

0 None
S 1-ft clear probe and 10-ft PU Line
1 1-ft probe and 10-ft PU line w/ QD
2 1-ft probe and 10-ft teflon line w/ QD (reactive gases)

> **Note:**
> An additional surcharge will be added to configurations that are classified as hazardous materials

A-ALT5X-											
	A	B	C	D	E	F	G	H	I	J	Qty

PART NUMBER

ALTAIR® 4XR Multigas Detector

Reliability

• State-of-the-art MSA XCell Sensors—two times faster than industry average

Rugged Durability

• Drop-tested
  • 25 drops from 4 ft (1.2 m)
  • 25-ft (7.5 m) drop onto concrete
• MIL-STD-810g
• Temperature: -40° F (-40° C) to +140° F (+60° C)

Real-Time Connectivity

• Live gas readings
• Text alerts from the field for gas alarm or man-down alarm
• Non-compliance warnings

Warranty

• Four-year warranty for instrument and sensors

ALTAIR® 4XR MULTIGAS DETECTOR

	Description	Part No.
ALTAIR 4XR GAS DETECTORS North American Configuration	LEL, O₂, CO, H₂S (**Charcoal**)	**10178557**
	LEL, O₂, CO, H₂S (**Glow**)	**10178558**
	LEL, O₂, CO, H₂S (Global Charger & **Charcoal**)	**10178560**
	LEL, O₂, CO, H₂S (Global Charger & **Glow**)	**10178571**
	LEL, O₂, CO, H₂S-LC (**Charcoal**)	**10178572**
	LEL, O₂, CO-H₂, H₂S (**Charcoal**)	**10179330**
	LEL, O₂, CO (**Charcoal**)	**10178566**
	LEL, O₂, CO (**Glow**)	**10178567**
	LEL, O₂ (**Charcoal**)	**10178568**
	LEL, O₂ (**Glow**)	**10178559**

CERTIFICATIONS/APPROVALS	
USA	Class I, Division 1, Groups A, B, C & D
	Class II, Division 1, Groups E, F & G
	Class III, Division 1
	Ambient temperature: -40˚C to +60˚C; T4
CANADA	CAN/CSA C22.2 No. 152 Combustible Gas Detection Instruments
	Gas Detection Instruments
	C22.2 No. 152 Performance Ambient Temperature: -20˚C to +54˚C;T4
	C22.2 No. 157 Intrinsic Safety Ambient Temperature: -40˚C to +54˚C; T4

ALTAIR® 4XR Multigas Detector

ALTAIR 4XR Assemble-To-Order (ATO) Options

To select your configuration, select instrument options and mark the code in the selection boxes at the bottom. Check MSA24 for additional options.

A COMBUSTIBLE SENSOR

0   None
L   1-100% LEL Pentane
M   0-5% Vol Methane

B OXYGEN SENSOR

0   None
1   0-30% Vol

C TOXIC SENSOR

0   None
A   0-1999 ppm CO and 0-200 ppm H2S
B   0-1999 ppm CO
C   0-200 ppm H2S
G   0-1999 ppm CO and 0-99.9 ppm H2S-LC
H   0-99.9 ppm H2S-LC
J   0-1999 ppm CO and 0-50 ppm NO2
K   0-99.9 ppm H2S-LC and 0-20 ppm SO2
L   0-1999 ppm CO H2-Res and 0-200 ppm H2S

D POWER SUPPLY

0   None
N   North American
M   North American with cradle
E   European with cradle
A   Australian with cradle
G   Global

E APPROVAL LABEL

C   North America
E   Europe ATEX
A   Australia

F WARRANTY

0   4-year standard warranty
1   WARRANTY 1-year extended warranty (5-years total)

G PACKAGING

0   Single carton
1[1] 10-unit bulk package

H COLOR CASE

0   Standard Charcoal
G   Glow-in-the-Dark

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

Key
[1] If bulk packaging is selected, multiply Total Unit Price by 10 times.

A-ALT4XR-

A	B	C	D	E	F	G	H			
								0	0	Qty

PART NUMBER

59

ALTAIR® 4X Detector (MSHA)

- 3-year instrument warranty
- Lower maintenance cost
- Reduced required calibration gas
- GALAXY GX2 System compatibility for powerful calibration and fleet management
- MotionAlert feature activation when no movement is detected for 30 seconds, indicating "man down"
- InstantAlert feature manually-activated alarm to alert others of hazardous situations
- 30+ hour run time for continuous operation over three shifts

ALTAIR® 4X MSHA MULTIGAS DETECTOR

U.S. Department of Labor MSHA Mine Safety & Health Administration

30 CFR Part 22, Methane Detector

30 CFR Part 75 Determination testing for methane and oxygen deficiency
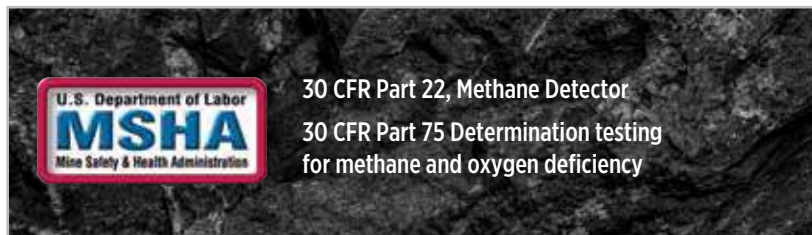
ALTAIR 4X Multigas Detector with North American approval, quick-start card, data logging, charger, calibration cap, tubing, and CD manual. MotionAlert feature comes standard on all detectors.

	DESCRIPTION	PART NO.
ALTAIR 4X MINING MULTIGAS DETECTOR	ALTAIR 4X Multigas Detector (CH_4, O_2, CO) Charcoal	10125912
	ALTAIR 4X Multigas Detector (CH_4, O_2, CO) Phosphorescent	10125913
	ALTAIR 4X Multigas Detector (CH_4, O_2, CO, NO_2) Charcoal	10125914
	ALTAIR 4X Multigas Detector (CH_4, O_2, CO, NO_2) Phosphorescent	10125915
REPLACEMENT SENSORS	Kit, XCell Ex-M Combustible Sensor	10121212
	Kit, XCell O_2 Sensor	10106729
	Kit, XCell CO/H_2S Two-Tox Sensor	10106725
	Kit, XCell CO/NO_2 Two-Tox Sensor	10121217
POWER SUPPLY	4-Unit Multi-Unit Charger NA Plug	10127422
	12-Unit Multi-Unit Charger NA Plug	10143372

▶ **Other MSA Products for Mining Applications**
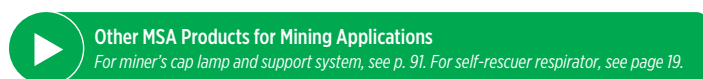
ALTAIR® 4X Detector (MSHA)

To select your configuration, select instrument options and mark the code in the selection boxes at the bottom. Check MSA24 for additional options.

The ALTAIR 4X Multigas Detector now comes standard with MSA's new XCell Sensors and MotionAlert feature to indicate "man down". Please select your instrument's case color; select option C for charcoal and option G for phosphorescent (glow-in-the-dark).

C	Charcoal
G	Phosphorescent (glow-in-the-dark)

B COMBUSTIBLE SENSOR
To have a combustible sensor installed in your new ALTAIR 4X Multigas Detector, please select C. For no combustible sensor, please select 0.

0	None
C	0-5% Vol methane

To have an oxygen sensor installed in your new ALTAIR 4X Multigas Detector, please select 1. For no sensor, enter 0.

0	None
1	0-30% Vol

D TOXIC SENSOR
To configure your new ALTAIR 4X Multigas Detector, choose 0 for no toxic sensor. Choose A for both CO and H2S sensors, choose B for CO, C for H2S, D for CO and NO2, and E for NO2.

0	None
A	0-1999 ppm CO and 0-200 ppm H2S
B	0-1999 ppm CO
C	0-200 ppm H2S
D	0-1999 ppm CO and 0-50 ppm NO2
E	0-50 ppm NO2

Select the correct power supply for your region. Add an instrument cradle to firmly secure your instrument while charging on the shelf or in a vehicle.

0	None
N	North American
M	North American with cradle

F APPROVAL LABEL
The ALTAIR 4X Multigas Detector is fully approved by MSHA.

M	MSHA

MSA includes a full 3-year warranty on the ALTAIR 4X Multigas Detector, including sensors, battery and electronics. Choose 1 for an additional year (4 years total).

0	3 years standard warranty
1	Extended warranty (4 years total)

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A-ALT4XM-

					M			
A	B	C	D	E	F	G		Qty

PART NUMBER

Portable Gas Detection Instruments

ALTAIR® 5X Multigas Detector Accessories

PART NO.	SPARE PARTS/REPLACEMENTS
10114835	Battery Pack Assembly, Rechargeable
10114837	Battery Pack, Alkaline (Includes Belt Clip)
10114839	Battery Pack, Rechargeable, PID/IR
10094830	Belt Clip Replacement Kit
10083591	Filter Cover Assembly
10165275	Filter Cover Assembly, PID/IR
10114949	Maintenance Kit
10165285	Maintenance Kit, PID/IR
10114950	Maintenance Kit (Cl_2, ClO_2, NH_3)
10165284	Maintenance Kit PID/IR (Cl_2, ClO_2, NH_3)
474555	Shoulder Strap
10050976	Retractable Line With Belt Clip
10040586	Carrying Case, Cordura, UL Only
10099648	ALTAIR 5X Holster, Leather
10099397	Vehicle Charger
10114853	Front Housing With Integrated Filters
10165249	Front Housing With Integrated Filters (PID)
10127427	Multi-Unit Charger, ALTAIR 5X Detector, 4-unit

PART NO.	SENSOR SPARE PARTS/REPLACEMENTS
10106722	Kit, XCell Ex Sensor, combustible
10106729	Kit, XCell O_2 Sensor
10106725	Kit, XCell CO/H_2S Two-Tox Sensor
10121213	Kit, XCell CO/H_2S-LC Two-Tox Sensor
10121214	Kit, XCell CO H_2-RES/H_2S Two-Tox Sensor
10121216	Kit, XCell CO-HC Sensor
10121217	Kit, XCell NO_2/CO Two-Tox Sensor
10106375	Kit, Replacement, HCN
10106728	Kit, XCell Cl_2 Sensor Replacement
10080222	Kit, Replacement, ClO_2
10106727	Kit, XCell SO_2 Sensor Replacement
10080224	Kit, Replacement, NO_2
10106726	Kit, XCell NH_3 Sensor Replacement
10116638	Kit, Replacement, PH_3
10114750	Kit, Replacement, NO
10165271	Kit, Replacement, PID 10.6ev 0-2000 ppm sensor
10165272	Kit, Replacement, PID 10.6ev 0-2000 ppm lamp
10165287	Kit, Replacement, PID 10.6ev 0-10k ppm sensor
10176653	Kit, Replacement PID 10.6ev 0-10k ppm lamp
10165248	Kit, PID Lamp Cleaning
10165247	Kit, PID Maintenance
10105650	XCell Sensor Plug
10088192	Sensor Plug, Oxygen and toxics (20 mm)

PART NO.	SAMPLING ACCESSORIES
10153218	Sampling Line, general purpose, 10-ft. PU
10153219	Sampling Line, general purpose, 15-ft. PU
10040665	Sampling Line with quick-disconnect, 10-ft. PU
10040664	Sampling Line with quick-disconnect, 25-ft. PU
10049058	Sampling Line with quick-disconnect, 10-ft. Teflon
10049057	Sampling Line with quick-disconnect, 25-ft. Teflon
10040667	Sampling Line with quick-disconnect, 3-ft. PU coiled
10105839	Sampling Line with quick-disconnect for reactive gases, 10-ft. Teflon straight, with Probe, 1-ft.
10153041	General Purpose Probe, Clear, 1-ft.
10042621	Probe, 1-ft.
10042622	Probe, 3-ft.
10161755	Quick-Disconnect Adapter
801582	Filter, Water Stop, pack of 10
10177856	Filter, General Purpose Probe
10040573	Hot Gas Probe
	Dilution Tube Set-Up
813514	Dilution Tube
10049059	Sampling Line Adapter
10049060	Sampling Line Adapter

PART NO.	CALIBRATION ACCESSORIES
710288	Demand Regulator Kit
10034391	Cl_2/NH_3/ClO_2 Demand Regulator Kit
10050985	Case With Gas Miser® Regulator, Demand Flow RP Kit (includes tubing and fitting, less gas)
10041225	Calibration Tubing with quick-disconnect fitting
10045035	58L RP, 60 ppm CO, 20 ppm H_2S, 15% O_2, 1.45% CH_4
10103262	58L RP, 60 ppm CO, 20 ppm H_2S, 15% O_2, 1.45% CH_4, 2.5% CO_2
10117738	58L RP, 60 ppm CO, 20 ppm H_2S, 15% O_2, 1.45% CH_4, 10 ppm SO_2
10048280	34L Econo-Cal® Cylinder, 60 ppm CO, 20 ppm H_2S, 15% O_2, 1.45% CH_4
10048789	34L Econo-Cal Cylinder, 60 ppm CO, 15% O_2, 1.45% CH_4
10048279	34L Econo-Cal 100 ppm Isobutylene
494450	100L 100 ppm Isobutylene

PART NO.	ID STICKERS
10177767	ID Stickers – Light Blue
10177768	ID Stickers – Red
10177769	ID Stickers – Green
10177770	ID Stickers – Orange
10177771	ID Stickers – Yellow

ALTAIR® 4X/4XR Multigas Detector Accessories

PART NO.	ACCESSORIES
10152669	Altair Pump Probe NA w/charger
10088099	MSA Link™ Software CD-Rom
10082834	Jeteye IR Adapter with USB Connector

PART NO.	SENSORS / SPARE PARTS
10106722	Kit, XCell Ex Sensor, combustible
10106729	Kit, XCell O_2 Sensor
10106725	Kit, XCell CO/H_2S Two-Tox Sensor
10121213	Kit, XCell CO/H_2S-LC Two-Tox Sensor
10121214	Kit, XCell CO H_2-RES/H_2S Two-Tox Sensor
10121215	KIT, XCell SO_2/H_2S-LC Two-Tox Sensor
10121217	KIT, XCell NO_2/CO Two-Tox Sensor
10178360	Front housing with dust filters (Charcoal)
10178361	Front housing with dust filters (Phosphorescent)
10179265	LCD assembly
10110062	Stainless steel clip, screws, & sensor gasket
10208647	Stainless Steel Replacement Clip Kit

PART NO.	CALIBRATION ACCESSORIES
467895	Regulator 0.25 lpm Model RP
10089321	Calibration Assembly (cap, tube, connector)
10048280	34L Quad Gas Mix (1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S)
10045035	58L Quad Gas Mix (1.45% CH_4, 15%O_2O2, 60 ppm CO, 20 ppm H_2S)

PART NO.	POWER SUPPLY
10087368	Charging cradle with power supply
10092233	Power Supply with Charge Connector
10095774	Vehicle Charger
10127422	4-Unit Multi-Unit Charger NA Plug

ALTAIR Pump Probe

- Rugged unibody housing provides unsurpassed durability, including ability to survive a 10-foot drop
- Large, glove-friendly button for single handed use
- Universal design allows ALTAIR Pump Probe to be utilized with a number of MSA diffusion-type portable gas detectors
- Translucent cap for easy filter inspection
- Tool-free quick change components for simplified maintenance
- Compatibility with MSA ALTAIR chargers

ALTAIR PUMP PROBE

PART NO.	ALTAIR PUMP PROBE
Comes with 3-year warranty, wand, calibration cap and coupling hose	
10152669	ALTAIR Pump Probe (North America) with charger
10153039	ALTAIR Pump Probe (North America) without charger
10161948	Pump Probe Adapter for ALTAIR 2X
PART NO.	SAMPLING LINES
10153103	10-foot polyurethane Sampling Line
10153104	25-foot polyurethane Sampling Line
10153105	50-foot polyurethane Sampling Line

Portable Gas Detection Instruments

ALTAIR® 2X Gas Detector

- incorporates proven XCell sensor technology.
- minimizes cost of ownership.
- enhances worker safety, compliance and traceability.
- demonstrates rugged durability.

ALTAIR 2XP Gas Detector with XCell Pulse Technology
Compliance, Traceability and Simplicity without Compromising Safety

The industry best practice of conducting a bump test prior to each day's use is easily achieved with the ALTAIR 2XP. Bump anywhere, any time, without bottled gas or accessories.

ALTAIR 2XT – Two-Tox Gas Detector
The ALTAIR 2XT Detector eliminates the need for a second detector by utilizing proven XCell Two-Tox Sensors. XCell Two-Tox Sensors detect two gases on distinct sensor channels with digital output that minimizes cross-channel interference.

ALTAIR 2X – Single-Gas Detector

ALTAIR 2X Gas Detectors: CO, CO-HC (High Concentration), CO-H_2 (Hydrogen Resistant), H_2S-LC, SO_2, NO_2, NH_3 and Cl_2

LOW COST OF OWNERSHIP	• Fastest sensor response times, lowest calibration gas flow rate on the market • 4-year expected instrument & sensor life • 3-year warranty on instrument & most sensors (2 years on Cl_2, NH_3)
INCREASED SAFETY AWARENESS & REAL-TIME COMPLIANCE	• Bump PASS: Green LED flash every 15 seconds, large on-screen checkmark for real-time compliance • Bump FAIL: Red LED flash every 15 seconds, no checkmark • End-of-sensor-life warning and alarm
FULL-TIME TRACEABILITY	• Records 75 alarm events and over 100 hours of periodic data, including bump and calibration records • Records can be easily downloaded during periodic gas calibrations using the GALAXY GX2 Automated Test System
RUGGED DURABILITY	• Tough over-molded rubber armor • Survives multiple 25-ft drops onto concrete • Agency-certified dust- and water-tight IP67 and intrinsically-safe construction
EASY TO USE	• 1-button, gloved hand operation • Large LCD, characters, and status icons

	Detector Type (Low, High Alarm in ppm)	Charcoal	Replacement Sensor
ALTAIR 2XP – WITH XCELL PULSE TECHNOLOGY	H_2S-Pulse (10, 15)	10153984	10121227
ALTAIR 2XT TWO-TOX GAS DETECTOR	CO/H_2S (CO: 25, 100; H_2S: 10, 15)	10154040	10152603
	CO-H_2/H_2S (CO: 25, 100; H_2S: 10, 15)	10154071	10152604
	CO/H_2S-LC (CO: 25, 100; H_2S: 5, 10)	10154072	10152605
	CO/NO_2 (CO: 25, 100; NO_2: 2.5, 5)	10154073	10152606
	SO_2/H_2S-LC (SO_2: 2, 5; H_2S: 10, 15)	10153985	10152607
ALTAIR 2X SINGLE GAS DETECTOR	CO (25, 100)	10153986	10152603
	H_2S/CO-H_2 (25, 100)	10154074	10152604
	CO-HC (25, 100)	10154075	10152602
	H_2S-LC (5, 10)	10154076	10152605
	SO_2 (2, 5)	10154077	10152607
	NO_2 (2.5, 5)	10154078	10152606
	NH_3 (25, 50)	10154079	10152601
	Cl_2 (0.5, 1)	10154080	10152600

PART NO.	POWER
10155203-SP	Battery (pack of 8)

ALTAIR 2XP H_2S DETECTOR

ALTAIR 2XT TWO-TOX DETECTOR

ALTAIR 2XT CO/H_2S version shown

ALTAIR 2X SINGLE-GAS DETECTOR

ALTAIR 2X NH_3 version shown

XCell® SENSORS

ALTAIR® 2X Gas Detector

To select your configuration, select instrument options and mark the code in the selection boxes at the bottom. Check MSA24 for additional options.

A Instrument Type

1 CO/H2S
2 CO-H2/H2S
3 CO/H2S-LC
4 CO/NO2
5 CO
6 CO-H2
7 CO-HC
8 H2S-PLS
9 H2S-LC
11 SO2/H2S-LC
12 SO2
13 NO2
14 NH3
15 Cl2
16 H2S

B Alternate Alarm Setpoint (Low, High, STEL, TWA) Gas #1

1 Default Setpoints
2 CO (30,60,60,30)
3 CO (35,100,100,35)
4 CO (35, 400,400, 35)
5 CO (50, 200, 200, 50)
6 CO (100, 300,300, 100)
7 CO (25, 100, 100, 25)
8 CO (75, 200,200,75)
9 CO (199, 200, 35, 200)
10 CO (30, 200, 200, 30)
11 CO (25, 50, 50, 25)
12 CO (200, 300, 300, 30)
13 H2S-PLS (10, 20, 20, 10)
14 H2S-PLS (5, 10, 10, 5)
15 H2S-PLS (8, 12, 12, 8)
16 H2S-PLS (7, 14, 7, 7)
19 SO2 (1, 2, 1, 1)
20 Cl2 (0.3, 0.5, 0.5, 0.3)
21 Cl2 (0.5, 1, 1, 0.5)
22 NH3 (10, 20, 20, 10)
23 NH3 (20, 40, 40, 20)

Notes:
If alternate alarm setpoints are desired, users may select from one of the presets in columns B or C. Alternatively, custom setpoints may be chosen by selecting "1" in columns B and C and option "C" in the Custom Features selection in Column "G". Please provide the Low, High, STEL and TWA for each gas and note any other software settings.

C Alternate Alarm Setpoint (Low, High, STEL, TWA) Gas #2

1 Default Setpoints
13 H2S (10, 20, 20, 10)
14 H2S (5, 10, 10, 5)
15 H2S (8, 12, 12, 8)
16 H2S (7, 14, 7, 7)
17 H2S-LC (5, 10, 10, 1.6)
18 H2S-LC (5, 10, 10, 1)
24 NO2 (2, 5, 5, 2)
25 NO2 (1, 3, 3, 1)

Notes:
If alternate alarm setpoints are desired, users may select from one of the presets in columns B or C. Alternatively, custom setpoints may be chosen by selecting "1" in columns B and C and option "C" in the Custom Features selection in Column "G". Please provide the Low, High, STEL and TWA for each gas and note any other software settings.

D Approvals

U UL/CSA/ATEX/AUST

E Case Color

C Charcoal
G Glow-inthe- Dark

F Packaging

1 Individual
2 Bulk Packaging (25/box)

G Custom Features

0 None
A "Always On" Mode ON
B Operating Beep ON
C Custom
G Go/No Go Mode ON
H Hibernate/Sleep Mode ON
M Motion Alert ON
P Persistent Alarm mode ON

Notes:
If "C Custom" was selected, please indicate any specific software settings. If this includes alternate alarm setpoints also indicate the gas and setpoints for High, Low, STEL, and TWA.

Note:
An additional surcharge will be added to configurations that are classified as hazardous materials

A-ALT2X	A	B	C	D	E	F	G	Qty
				U				

PART NUMBER

ALTAIR® Pro Gas Detector

ALTAIR Pro toxic gas and oxygen detectors combine reliable detection and LED/audible/ flashing/vibrating alarms with clear, backlit LCD displays. Electrochemical sensors measure concentrations of toxic gas (chlorine dioxide, hydrogen cyanide, phosphine) or percent oxygen.

	Instrument Type	Part No.	Low Alarm	High Alarm	STEL	TWA
ALTAIR PRO SINGLE-GAS DETECTORS	Oxygen (O$_2$)	10074137	19.50%	23.00%	N/A	N/A
	Hydrogen Cyanide (HCN)	10076729	4.5 ppm	10 ppm	10 ppm	4.7 ppm
	Chlorine Dioxide (ClO$_2$)	10076717	0.1 ppm	0.3 ppm	0.3 ppm	0.1 ppm
	Phosphine (PH$_3$)	10076735	0.3 ppm	1.0 ppm	1.0 ppm	0.3 ppm
Alternate Set Point Model	Oxygen (O$_2$)	10076732	18.00%	19.50%	N/A	N/A

ALTAIR® Maintenance-Free Single-Gas Detector

- Sensor options for CO, H$_2$S, and O$_2$
- Patented electrochemical sensors & MSA-built button sensors operate for over 2 years
- Stainless steel and solid electrolyte construction virtually eliminate sensor leakage
- Automatically records the last 25 alarm/test events and can communicate data by connecting to MSA Link via built-in IR communication port
- No-miss triple alarm system includes bright flashing LEDs, piercing audible alarm, and an internal vibrating alarm
- Rubberized armor housing and one-button operation for maximum durability and simplicity

	Instrument Type	Part No.	First Alarm	Second Alarm
ALTAIR PRO SINGLE-GAS DETECTORS	Carbon Monoxide (CO)	10092522	25 ppm	100 ppm
	Hydrogen Sulfide (H$_2$S)	10092521	10 ppm	15 ppm
	Oxygen (O$_2$)	10092523	19.5% Vol	23% Vol
Alternate Set Point Model	Carbon Monoxide (CO)	10071334	30 ppm	60 ppm
	Carbon Monoxide (CO)	10071335	35 ppm	100 ppm
	Hydrogen Sulfide (H$_2$S)	10071340	10 ppm	20 ppm
	Hydrogen Sulfide (H$_2$S)	10071361	5 ppm	10 ppm
	Hydrogen Sulfide (H$_2$S)	10071363	7 ppm	14 ppm
	Oxygen (O$_2$)	10071364	19.5% Vol	18% Vol

ALTAIR® and ALTAIR® Pro Accessories and Parts

PART NO.	ACCESSORIES
467895	Regulator, 0.25 lpm
10030325	Tubing, 16" (do not use with NH$_3$, Cl$_2$, and ClO$_2$)
10080534	Tubing, 16" Teflon-lined (NH$_3$, Cl$_2$, and ClO$_2$)
10074132	3V CR2 battery – ALTAIR Pro only
10082834	JetEye IR USB adapter
10088099	MSA Link software CD-ROM

PART NO.	CLIPS
10069894	Clip, stainless steel
10041105	Cell phone clip
10041107	Lanyard clip
10073346	Hard hat clip
10040002	Clip, suspender (standard)

GALAXY® GX2 Automated Test System

Ease of Use: Calibrate & Test Effortlessly

- Easy setup, simple use with touch-free testing.
- Color touch screen enhances user experience at the test stand.
- Can be used with a PC or as a stand-alone system, the perfect solution for large fleet end users, as well as for smaller applications.
- Automated test system provided in many commonly spoken languages.
- Your MSA ALTAIR 5X, 5X PID, 4XR, 4XM, 2X, Pro, and Single Gas Detectors are always ready for use. If you're faced with an urgent, short-notice situation, these units are ready for deployment, ideal for emergency applications.

Cost of Ownership: Save Time, Save Gas, & Save Money

- Exceeds 50% reduction in cost of ownership, including calibration gas expenses when combined with high-performance MSA XCell Sensors.
- Faster total testing of ALTAIR Family Gas Detectors.
- Test up to 10 gas detectors simultaneously in the time most competitive systems take to test one device.
- RFID-tagged calibration gas.

	PART NO.	DESCRIPTION
GALAXY GX2 SYSTEM TEST STAND/ 1 VALVE *for use with 1 calibration gas cylinder*	10128644	ALTAIR / ALTAIR PRO / ALTAIR 2X Detectors, no-charging
	10128630	ALTAIR 4/4X Multigas Detector, charging
	10128642	ALTAIR 4/4X Multigas Detector, no-charging
	10128626	ALTAIR 5/5X Multigas Detector, charging
	10128628	ALTAIR 5/5X Multigas Detector, no-charging
GALAXY GX2 SYSTEM TEST STAND/ 4 VALVE *for use with 1–4 calibration gas cylinders*	10128643	ALTAIR / ALTAIR PRO / ALTAIR 2X Detectors, no-charging
	10128629	ALTAIR 4/4X Multigas Detector, charging
	10128641	ALTAIR 4/4X Multigas Detector, no-charging
	10128625	ALTAIR 5/5X Multigas Detector, charging
	10128627	ALTAIR 5/5X Multigas Detector, no-charging
CALIBRATION GAS	10048280	Calibration gas cylinder (34L) 1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S
	10045035	Calibration gas cylinder (58L) 1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S
	10117738	Calibration gas cylinder (58L) 1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S, 10 ppm SO_2
	10098855	Calibration gas cylinder (34L) 1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S, 10 ppm SO_2
	10103262	Calibration gas cylinder (58L) 1.45% CH_4, 15% O_2, 60 ppm CO, 20 ppm H_2S, 2.5% CO_2

GALAXY® GX2 Accessories

PART NO.	ACCESSORIES
10105756	Electronic cylinder holder
10125135	Non-electronic cylinder holder
10127111	4 GB SD card
10123937	Digital secure USB key
10125907	End cap
10127422	ALTAIR 4XR/4XM Detector Multi-unit Charger, NA
10127427	ALTAIR 5X/5X PID Detector Multi-unit Charger, NA
10127112	Laminated quick start guide
10127518	12″ (TBR) Ethernet cable for test stand to test stand connection
10126657	DIN rail clip kit (2 clips & screws per kit)
10062364	Type Omega DIN Rail 0.5m, perforated, steel, zinc-plated
10062365	Type Omega DIN Rail 1m, perforated, steel, zinc-plated
10062366	Type Omega DIN Rail 2m, perforated, steel, zinc-plated

PART NO.	ACCESSORIES
10082834	USB IR dongle
10034391	Demand flow regulator (universal)
710289	Large capacity (<3000 psi) demand regulator
10124286	NA power supply (1 of 2)
10127146	NA power cord (2 of 2)
10126268	Vehicle power adapter

GALAXY® GX2 Automated Test System

Galaxy GX2 Assemble-To-Order (ATO) Options

To select your configuration, select instrument options and mark the code in the selection boxes at the bottom. **Check MSA24 for additional options.**

A TEST STAND INSTRUMENT TYPE

Each instrument type has a dedicated GALAXY GX2 System test stand. 10 test stands can be banked together in any combination, allowing for ultimate flexibility.

A ALTAIR/ALTAIR Pro/ALTAIR 2X Detector

B ALTAIR 4/4X Detector

C ALTAIR 5/5X Detector

B ACTIVE CYLINDER PORTS

Single valve test stands allow for only one calibration cylinder to be used. 4 valves allow for 1- 4 calibration cylinders to be accessed.

1 1 Valve / 1 Cylinder

4 4 Valves / Up to 4 Cylinders

C INSTRUMENT CHARGING

Instrument charging allows for a single instrument to be charged per test stand. Only available on ALTAIR® 4/4X and ALTAIR 5/5X Multigas Detector test stands. Choose Yes/1 if you wish to use the "always ready" function of ALTAIR 4X or ALTAIR 5X Detectors.

0 No

1 Yes

D SMART CYLINDER HOLDER

Smart cylinder holder provides calibration gas information and gas levels. Information such as part number, gas types, concentrations, expiration date, lot number, and real time pressure levels are automatically set up in the test stand. Smart cylinder holder provides end users with automated, remote warnings as to low or no gas and expired or nearly expired cylinders.

0 None

1 1 Cylinder Holder

2 2 Cylinder Holders

3 3 Cylinder Holders

4 4 Cylinder Holders

E MULTI-UNIT CHARGER

Selection of ALTAIR 4/4X Detector and multi-unit charger provides charging for 1-4 ALTAIR 4/4X Detectors. Selection of ALTAIR 5/5X Detectors and multi-unit charger provides charging for 1-4 ALTAIR 5/5X Detectors. Additional units may be purchased from accessory list below.

0 None

B Multi-unit charger, ALTAIR 4/4X

C Multi-unit charger, ALTAIR 5/5X

D Multi-unit charger, ALTAIR 4/4X & 5/5X (2 positions of each)

F POWER CORD

Each test stand (with the exception of Argentina version) comes with 6V power supply. Power cord option then chooses the appropriate power cord by region. None provides power supply and no power cord. Argentina version provides no power supply and no power cord.

N North America

E Europe

U United Kingdom

A Australia

R Argentina

0 None

H SECURE DIGITAL USB

Allows end user to securely configure instrument set points at GALAXY GX2 System test stand. Must be inserted to process any setting changes to an instrument.

0 None

A 1 Secure Digital USB Key

Note:

An additional surcharge will be added to configurations that are classified as hazardous materials

A-GX2-							0		0		
	A	B	C	D	E	F		H		Qty

PART NUMBER

MSA Calibration Cylinders

100L	34L, 58L and 116L	875L

Call for availability of other gas mixtures

**Model RP and Model R
Calibration Cylinders—Non-Reactive Gases**

**Model RP and Econo-Cal
Calibration Cylinders—Reactive Gases**

**BD-20 Calibration Cylinder—
Reactive or Non-Reactive Gases**

Model RP Cylinder
- Contents: Pressure 1000 psig; approximately 100 liters at atmospheric pressure
- Material: Steel

Model RP & Econo-Cal Cylinders
- Contents: Pressure 500 psig–1000psig
- Material: Aluminum

Cylinder
- Contents: Pressure 2216 psig
- Material: Aluminum
- Part No. **10152629** (standard quad gas)

MODEL RP CALIBRATION CHECK KIT

- Includes regulator with cylinder pressure gauge, adapter hose, sensor adapter (where applicable), instructions, and two-cylinder case
- Model RP Kit steel calibration gas cylinders measure approximately 14¼" high, 3½" in diameter
- Aluminum container 13¼" high, 3" in diameter
- Depending upon individual pressure requirements, cylinders contain 58 to 100 liters of specified gas mixture

P/N	Description
477149	**Model RP Calibration Check Kit, with 0.25 lpm regulator, includes:**
467895	Regulator (0.25 lpm)
24194	Tubing, 30" (without sampling line connection)
10089321	Calibration cap: ALTAIR 4/4X
635833	Quick disconnect fitting
628474	Zero plug for MSA electrochemical sensors
465898	Quick disconnect fitting, internal, ³⁄₁₆ barb

Calibration Cylinders Are Recyclable

MSA has affiliated with The Arc™ of Butler County—a nonprofit organization that employs people with intellectual and developmental disabilities—and established a Cylinder Recycling Center. The calibration cylinders are not refilled, but salvaged for scrap. All money generated from selling the scrap cylinders is placed in the Arc operating fund for salaries and operating costs.

Calibration cylinders are considered hazardous unless the cylinders are empty. MSA has developed special devalving tools that will ensure the cylinder is empty and render the cylinder non-fillable. For your convenience, MSA also offers a specially pre-addressed shipping box (also recyclable) which helps you pay the lowest shipping costs available.

The MSA Recycling Center limits the return of calibration cylinders to MSA-logoed cylinders only. Non-MSA cylinders will be rejected. Contact the Customer Service Center for additional details at 1-800-MSA-2222.

DEVALVING TOOLS

Model RP	Model R	Return Box
711228	711229	711227

MSA Calibration Cylinders

NON-REACTIVE GASES					
Gas Type	**Concentration**	**34L**	**58L**	**100L**	**116L**
AIR (ZERO GAS)	THC < 1 ppm	–	–	801050	10150608
CARBON DIOXIDE (CO$_2$)	2.5%	–	–	479265	–
CARBON DIOXIDE (CO$_2$)	1.5%	–	–	807386	–
CARBON DIOXIDE (CO$_2$)	10.00%	–	801050	–	–
CARBON MONOXIDE (CO)	300 ppm	–	–	473180	–
CARBON MONOXIDE (CO)	60 ppm	–	–	710882	10150609
CARBON MONOXIDE (CO)	50 ppm	–	–	809241	–
ISOBUTYLENE	100 ppm	–	–	494450	–
OXYGEN (O$_2$)	20.80%	–	–	–	10150610
METHANE	50%	–	10075804	–	–
METHANE (W/ODORANT)	100%	–	711014	–	–

REACTIVE GASES				
Gas Type	**Concentration**	**34L**	**58L**	**116L**
AMMONIA (NH$_3$)	25 ppm	711078	814866	10150611
CHLORINE (CL2)	10 ppm	711066	806740	10150612
	2 ppm	711082	710331	10150613
HYDROGEN CHLORIDE (HCL)	40 ppm	711080	710210	–
HYDROGEN CYANIDE (HCN)	10 ppm	711072	809351	10150614
HYDROGEN SULFIDE (H$_2$S)	40 ppm	711062	467897	10150616
	20 ppm	10153844	10153845	10153846
	15 ppm	711064	806253	–
	10 ppm	711060	467898	–
	5 ppm	711086	710414	–
NITRIC OXIDE (NO)	50 ppm	711074	812144	10150617
NITROGEN DIOXIDE (NO$_2$)	10 ppm	711068	808977	10150599
	5 ppm	711084	710332	–
SULFUR DIOXIDE (SO$_2$)	10 ppm	711070	808978	10150600
PHOSPHINE (PH$_3$)	0.5 ppm	711088	710553	10151016
ISOBUTYLENE	100 ppm	10048279	10028038	–

AutoFill for Calibration Gas

Simplify the management of your gas detection program.

See page 55 for details.

MSA Calibration Cylinders

MULTIGAS ("COCKTAIL MIXES") TABLE

REACTIVE GASES

COMB Gas	CO	O_2	H_2S	NO_2	SO_2	CO_2	34L	58L	116L
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	20 ppm	–	–	–	10048280	10045035	10150595
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	20 ppm	–	10 ppm	–	10098855	10117738	10150622
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	–	10 ppm	–	–	10058036	10058034	10150597
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	20 ppm	–	–	2.50%	10104621	10103262	10150606
1.45% METHANE AS PENTANE SIMULANT	300 ppm	15%	10 ppm	–	–	–	711058	804770	–
2.5% METHANE	60 ppm	15%	20 ppm	–	–	–	10048981	10048890	10150596
2.5% METHANE	60 ppm	15%	–	10 ppm	–	–	10058172	10058171	10150598
2.5% METHANE	300 ppm	15%	10 ppm	–	–	–	711076	813720	–

NON-REACTIVE GASES

COMB Gas	CO	O_2	34L	58L	116L	100L
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	10048789	478191	–	–
2.5% METHANE	60 ppm	15%	10049056	813718	–	–
1.45% METHANE AS PENTANE SIMULANT	300 ppm	15%	–	–	–	10010162
1.45% METHANE AS PENTANE SIMULANT	–	15%	–	–	–	478192

ALTAIR 2X DETECTOR

H_2S	SO_2	CO	NO_2	34L	58L	116L
20 ppm	–	–	–	10153844	10153845	10153846
20 ppm	10 ppm	–	–	10153808	10153807	10153808
20 ppm	–	60 ppm	–	10153800	10153801	10153802
–	–	60 ppm	10 ppm	10153803	10153804	10153805

REGULATORS

GAS MISER® DEMAND REGULATOR			FIXED FLOW REGULATORS				COMBINATION REGULATOR
Model RP	BD-20	BD-20	Model RP		Model R		Model RP
	CGA 330	CGA 590	0.25 lpm	1.5 lpm	0.25 lpm	0.5 lpm	0.25 lpm
10034391	10148159	710289	467895	467896	459949	459948	711175
	Up to 3000 psi cylinders	Up to 3000 psi cylinders	–	–	–	–	–
Can be used with all reactive gases (replaces 710288)	CGA 330 is standard fitting for H_2S containing mixtures	CGA 590 is standard fitting for non-H_2S mixtures	–	–	–	–	Easily converts 34, 58, 116, or 100L into "squirt" bottle; provides stable gas concentration

Model RP – Regulator threads onto into 34, 58 and 116L aluminum bottles and 100L steel bottles; limited to 1000 psi

Model BD – Regulator attaches directly onto cylinder containing up to 3000 psi gas pressure

Model R – Regulator fits 19L steel cylinder (red or blue); often contains combustible gas mixture

INSTANT CONNECTION. REAL-TIME INTEL.
ALTAIR io™ 4 GAS DETECTION WEARABLE

The ALTAIR io 4 comes with fully integrated connectivity
for real-time visibility across your worksites from day one.
MSAsafety.com/io4

MSA
The Safety Company

Head, Eye, Face, and Hearing Protection

Hard Hats, Safety Helmets, and Accessories
Hearing Protection
Eye Protection
Fire and Rescue Helmets

V-Gard® Hard Hats

V-Gard Cap
with Fas-Trac® III Suspension

V-Gard Full-Brim Hat
with Fas-Trac® III Suspension

GLOSS FINISH

Classification	Type I
Application	General purpose
Shell Material	Polyethylene
Styles	Slotted cap; slotted full-brim hat
Sizes	*Cap-Style:* small (6 – 7⅛); standard (6½ – 8); large (7– 8½)
	Full-Brim Hat: standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Certification	Third-party by SEI
Customization	Imprinting and striping available (see pages 83–84)
Replacement Suspensions	See page 85

MATTE FINISH

Classification	Type I
Application	General purpose
Shell Material	Polyethylene
Styles	**Slotted cap only**
Sizes	*Cap-Style:* standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Certification	Third-party by SEI
Customization	Imprinting and striping available (see pages 83–84)
Replacement Suspensions	See page 85

DID YOU KNOW?
All V-Gard Helmets have UV inhibitor molded right in.

CUSTOMIZATION:
Imprinting and striping available—see pages 83–84
REPLACEMENT SUSPENSIONS: See page 85

DID YOU KNOW?
MSA helmets marked **LT** meet voluntary requirements for "Lower Temperature." Helmets marked LT are conditioned to -22°F and then tested for impact and penetration, as outlined in the Standard. Any helmet NOT marked with LT is tested to 0°F.

V-Gard® Cap-Style Hard Hats

STANDARD V-GARD SLOTTED CAPS

Color		w/ Staz-On® Suspension	w/ 1 Touch® Suspension[1]	w/ Fas-Trac III Suspension[1]
GLOSS FINISH				
WHITE		463942	10057441	475358
BLUE		463943	10057442	475359
YELLOW		463944	10057443	475360
ORANGE		463945	10057444	475361
RED		463947	10057446	475363
GREEN		463946	10057445	475362
GRAY		463948	10057447	475364
HI-VIZ® ORANGE[2]		488148	10057420	488146
HI-VIZ YELLOW-GREEN[2]		—	10061514	10061512
BRIGHT LIME GREEN		815558	—	815565
DARK (CANADIAN) BLUE		—	—	802972
GOLD		464852	—	475365
ROBIN'S EGG BLUE		463111	—	495853
BROWN		464658	—	495854
SILVER		484340	—	495855
TAN		461180	—	—
BLACK		475235	—	492559
LIGHT BUFF		478237	—	495856
PURPLE		488398	—	495858
PINK		—	—	495862
HOT PINK		10155231	—	10155230

STANDARD V-GARD SLOTTED CAPS

Color		w/ Fas-Trac III Suspension[1]
MATTE FINISH		
WHITE		10203081
BLUE		10203082
YELLOW		10203083
ORANGE		10203087
RED		10203086
GREEN		10203085
GRAY		10203084
HI-VIZ® ORANGE[2]		10203089
HI-VIZ YELLOW[2]		10203088
BLACK		10203092

SMALL V-GARD SLOTTED CAPS

Color		w/ Staz-On Suspension	w/ Fas-Trac III Suspension[1]
GLOSS FINISH			
WHITE		466354	477477
BLUE		466355	477478
YELLOW		466356	477479
BRIGHT LIME GREEN		—	489368

LARGE V-GARD SLOTTED CAPS

Color		w/ Staz-On Suspension	w/ Fas-Trac III Suspension[1]
GLOSS FINISH			
WHITE		473284	477482
BLUE		476928	477483
YELLOW		473285	477484
HI-VIZ® ORANGE[2]		—	489364

STANDARD V-GARD CAP SPECIAL ASSEMBLIES

Color		w/ Staz-On Suspension	w/ 1 Touch Suspension[1]	w/ Fas-Trac III Suspension[1]
GLOSS FINISH				
HI-VIZ ORANGE *w/yellow-green stripe*[2]		—	10102195	10102193
HI-VIZ YELLOW-GREEN *w/red-orange stripe*[2]		—	10102234	10102233
HI-VIZ YELLOW-GREEN *w/silver stripe*[2]		—	10102196	10102194
WHITE *w/lamp bracket and cord holder (Class C)*		460018	—	—
WHITE *w/American Flag*		474159	—	—
WHITE *w/Swing-Ratchet Suspension*		10004689	—	—

V-Gard w/Lamp Bracket and Cord Holder

V-Gard w/Swing-Ratchet Suspension

[1]*Certified to CSA.*
[2]*V-Gard Cap/Hat meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.*

V-Gard® Full-Brim Hard Hats

STANDARD V-GARD FULL-BRIM HATS			
Color	w/ Staz-On Suspension	w/ 1 Touch Suspension[1]	w/ Fas-Trac III Suspension[1]
GLOSS FINISH			
WHITE	454733	10058321	475369
BLUE	454732	10058320	475368
YELLOW	454730	10058318	475366
ORANGE	454734	10058322	496075
RED	454736	10058324	475371
GREEN	454735	10058323	475370
GRAY	454731	10058319	475367
HI-VIZ® ORANGE[2]	489360	10058326	10021292
HI-VIZ YELLOW-GREEN[2]	—	10061516	10061515
BRIGHT LIME GREEN	815562	—	815570
DARK (CANADIAN) BLUE	—	—	802975
HOT PINK	10156374	—	10156373

STANDARD V-GARD FULL-BRIM HAT SPECIAL ASSEMBLIES			
	Color	w/ Staz-On Suspension	w/ Fas-Trac III Suspension[1]
GLOSS FINISH			
WHITE w/lamp bracket and cord holder (Class C)		460069	815009

V-Gard® GREEN Hard Hats: *the world's first hard hat made from renewable resources*

V-Gard GREEN hard hats are constructed of renewable green high-density polyethylene (GHDPE); traditional V-Gard Helmets are manufactured through standard HDPE production methods. V-Gard GREEN hard hats provide the same appearance and quality as MSA V-Gard hard hat. Test results for V-Gard GREEN helmet shells indicated 95% bio-based content.

Classification .... Type I
Application .... General purpose
Shell Material .... Green high-density polyethylene (GHDPE)
Styles .... Slotted cap with 4-point Fas-Trac III Suspension;
Slotted full-brim hat with 4-point Fas-Trac III Suspension
Sizes .... Standard (6½ – 8)
Standards .... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Certification .... Third-party by SEI; USDA Biobased Certified

V-GARD GREEN HARD HATS		
Color	Slotted Cap	Slotted Full-Brim Hat
WITH 4-POINT FAS-TRAC SUSPENSION		
WHITE	10150199	10160923
BLUE	10150221	10160925
YELLOW	10150200	10160924
RED	10150223	10160927
GREEN	10150222	10160926

DID YOU KNOW?
On average, production of each V-Gard GREEN helmet removes approximately 2 lbs. of CO_2 from the atmosphere, according to the GHDPE material supplier.

CUSTOMIZATION: Imprinting and striping available—see pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

[1]Certified to CSA.
[2]V-Gard Cap/Hat meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.

V-Gard® H1 and H1 Pro Safety Helmets

The V-Gard H1 and H1 Pro Safety Helmets and accessories provide **exceptional comfort** and **ease of use** in a **stylish low-profile design**. A complete above-the-neck platform **for all applications**, especially work-at-heights, confined spaces, and rescue.

Classification	Type I
Markets............................	Utilities; oil, gas and petrochemical; general industry; construction
Application	General Industry; construction; working-at-heights; confined space; rescue
Shell Material	HDPE (high-density polyethylene)
Styles	Novent; trivent (H1 anad H1 Pro); bivent (H1 only)
Sizes	Standard 6½ – 8 (52–64 cm) head circumference
Standards........................	*See chart on p. 81*

V-Gard H1 Safety Helmet (novent)

V-Gard H1 Safety Helmet (trivent)

V-Gard H1 Safety Helmet (bivent)

V-Gard H1 Pro Safety Helmet (novent)

V-Gard H1 Pro Safety Helmet (trivent)

V-Gard H1 Safety Helmet Features (Global & Canada)

- Fas-Trac® III Pivot ratchet suspension for superior comfort, adjustability and range of motion; field replaceable
- Non-contact foam liner maximizes air flow & breathability for optimal cooling and hygiene
- 4-point chinstrap with multiple adjustment points for customized fit and comfort; field replaceable
- Convenient rescue whistle integrated into the chin strap buckle
- Premium sweatband with sweat-wicking fabric, breathable foam and Velcro® attachment for easy field replacement
- Patent pending "push-button" accessory attachment rail and universal light strap clips for simplicity and convenience
- Suspension and chinstrap fully assembled
- Reflective gray 360⁰ striping included

V-Gard H1 Pro Safety Helmet Features (ANSI Only)

- Fas-Trac® III H1 non-pivoting ratchet suspension comes standard for superior comfort, easy cleaning and durability; field replaceable
- Non-contact foam liner maximizes air flow & breathability for optimal cooling and hygiene
- 4-point chinstrap with multiple adjustment points for customized fit and comfort; field replaceable
- Convenient rescue whistle integrated into the chin strap buckle
- Sewn-in vinyl sweatband for added comfort, easy cleaning and duarbility
- Patent pending "push-button" accessory attachment rail and universal light strap clips for simplicity and convenience
- Meets the requirements of European standard EN124922012 for Shock Energy Absorption Capacity [4.2.1.1 (vertical/top), 4.2.1.2 (front), 4.2.1.3 (lateral), 4.2.1.4 (rear)], Penetration [4.2.2] and Retention System [4.2.3 (strength), 4.2.4 (effectiveness)]

V-Gard® H1 and H1 Pro Safety Helmets

Customization Options for V-Gard H1 Safety Helmet (Global & Canada)

- Multiple printing services, from simple one-color logo to four-color with gradients
- Up to three logo locations: Front, Back Left, Back Right
- With or without reflective gray 360⁰ striping

Customization Options for V-Gard H1 Pro Safety Helmet (ANSI Only)

- Multiple printing services, from simple one-color logo to four-color with gradients
- Up to three logo locations: Front, Back Left, Back Right
- With or without reflective gray 360⁰ striping
- Suspension type: Pivoting with Velcro Sweatband or Non-Pivoting with Sewn-In Vinyl Sweatband
- Chinstrap type: EN397 or EN12492 compliant
- Custom helmet colors available

Care & Maintenance

- Clean helmet assembly regularly with MSA's Confidence Plus Cleaning Solution (P/Ns 10009971 or 10032737) or mild soap (no detergents) and warm water
- Do not throw, drop, use as support or abuse helmet to ensure proper working condition
- Store helmet in clean, dry environment, 5–35ºC (41–95ºF)

Technical Assistance/Additional Information

For more information about V-Gard Helmets and other MSA products, please contact MSA Customer Service at 1-800-MSA-2222 or visit MSAsafety.com.

Service Life Guidelines

- V-Gard Helmets are made with high-quality, wear-resistant materials
- Inspect the helmet before and after each use and replace any part(s) as required
- Always replace the helmet after it has withstood an impact or penetration. MSA recommends:
  - Replacing the suspension after no more than 12 months of use.
  - Replacing the chinstrap after no more than 12 months of use.
  - Replacing the shell after no more than five (5) years of use.
- Storage Life is 2 years from date of manufacture when stored as directed
- Warranty: 1 year from date of purchase (free from manufacturer's defects)
- Please consult user instructions for additional details

V-GARD H1 AND H1 PRO SAFETY HELMETS — STANDARD COLORS

Color		V-Gard H1 Safety Helmet (Global)			V-Gard H1 Pro Safety Helmet (ANSI Only)		V-Gard H1 Safety Helmet (Canada & ANSI)	
		Novent	Trivent	Bivent	Novent	Trivent	Novent	Bivent
WHITE		10194791	10194783	10212394	10236213	10236204	10219932	10219941
RED		10194792	10194784	10212395	10236214	10236205	10219933	10219942
BLUE		10194793	10194785	10212396	10236215	10236206	10219934	10219943
GREEN		10194794	10194786	10212397	10236216	10236207	10219935	10219944
YELLOW		10194795	10194787	10212398	10236217	10236208	10219936	10219945
HI-VIZ YELLOW GREEN		10194796	10194788	10212399	10236218	10236209	10219937	10219946
ORANGE		10194797	10194789	10212400	10236219	10236210	10219938	10219947
BLACK		10194798	10194790	10212401	10236220	10236211	10219939	10219948
GRAY		10204347	10204346	10212402	10236221	10236212	10219940	10219949
CUSTOM COLORS*		NA	NA	NA	Yes	Yes	Yes	Yes

*Contact Customer Service for Minimum Order Qty.

CUSTOMIZATION: Stylish dark gray reflective striping standard. Imprinting available—see pages 83–84   **ACCESSORIES:** See page 80

V-Gard H2™ Safety Helmets

NEW!

The V-Gard H2 Safety Helmet provides superior comfort and versatility while incorporating the latest technology to help protect against lateral impacts. The optional Mips® brain protection system adds another layer of protection in industrial safety helmets, designed to help reduce the risk of brain trauma by redirecting rotational energies in the event of certain angled impacts.

- **Quick and easy customization** with thousands of existing logos, easy creation of new logos, and reflective stripes.
- **Integrated headlamp strap clips** for easy and secure donning and doffing of lights on the helmet.
- **ANSI Z89.1 Type II certification** with integrated chinstrap for enhanced protection against lateral impacts.
- **Non-vented options** for use in electrical applications where Class E certification is needed.
- **Optional venting** for improved air flow, cooling and reduced heat stress.

- **Extensive accessory compatibility with nearly all V-Gard H1 and V-Gard accessories** for a wide variety of industrial applications and easy integration with existing inventory.
- **Comfortable ratchet suspension** that's easily adjustable with a gloved hand.
- **Antimicrobial sweatband, crown pad, and ratchet pad** with Ionic+® high-purity silver to eliminate odor-causing bacteria.
- **Optional Mips® system** for additional rotational impact protection designed to help reduce the risk of traumatic brain injury.

| Vented W/O MIPS | Non-Vented W/O MIPS | Vented With MIPS | Non-Vented With MIPS |

Classification .... Type II
Markets .... Utilities; oil, gas and petrochemical; general industry; construction
Application .... General Industry; construction; working-at-heights; confined space; rescue
Shell Material .... ABS (Acrylonitrile Butadiene Styrene)
Styles .... Vented and non-vented
Sizes .... Standard 6½ – 8 (53 – 63 cm) head circumference
Standards .... VENTED: ANSI/ISEA Z89.1-2014 (R2019), Type II, Class C, HT, HV (if applicable)
  NON-VENTED: ANSI/ISEA Z89.1-2014 (R2019), Type II, Class E, HT, HV (if applicable)

CUSTOMIZATION: Stylish dark gray reflective striping standard. Imprinting available—see pages 83–84   **ACCESSORIES:** See page 80

	VENTED without Mips	NON-VENTED without Mips	VENTED with Mips	NON-VENTED with Mips
V-GARD H2 SAFETY HELMET ASSEMBLIES				
WHITE	10242629	10242635	10242813	10242822
RED	10242808	10242811	10242819	10242828
BLUE	10242632	10242638	10242816	10242825
GREEN	10242809	10242812	10242820	10242829
YELLOW	10242631	10242637	10242815	10242824
HI-VIZ YELLOW	10242634	10242640	10242821	10242830
ORANGE	10242807	10242810	10242818	10242827
BLACK	10242630	10242636	10242814	10242823
GRAY	10242633	10242639	10242817	10242826

V-Gard H1 and H2 Safety Helmets

V-GARD H1 SAFETY HELMET ACCESSORIES

Part No.	Product Name	Color	Product Specifics	Approvals	
10194818	V-Gard H1/H2 Clear Face Shield	Clear	• Clear polycarbonate contoured visor for closer fit and optimal resistance to impact and splash hazards • Simple push button donning and doffing on the V-Gard H1 Safety Helmet—no additional frames or adapters required • Dual pivot hinge maintains a low profile to the helmet when stowed for improved balance and wind resistance • Frameless design with anti-fog and anti-scratch coatings for greater visibility	• ANSI/ISEA Z87.1-2015 • CSA Z94.3 • EN 166	
10194819	V-Gard H1/H2 Mesh/Forestry Face Shield	Mesh	• Steel mesh contoured visor for closer fit and optimal protection from flying chips and other light debris • Simple push button donning and doffing on the V-Gard H1 Safety Helmet—no additional frames or adapters required • Dual pivot hinge maintains a low profile to the helmet when stowed for improved balance and wind resistance	• ANSI/ISEA Z87.1-2015 • EN 1731	
10194820	V-Gard H1/H2 Half-Face Spectacles	Clear	• Clear polycarbonate contoured spectacles for closer fit and optimal resistance to impact and splash hazards • Simple push button donning and doffing on the V-Gard H1 Safety helmet—no additional frames or adapters required • Dual pivot hinge maintains a low profile to the helmet when stowed for improved balance and wind resistance • Frameless design with anti-fog and anti-scratch coatings for greater visibility	• ANSI/ISEA Z87.1-2015 • CSA Z94.3 • EN 166	
10217333	V-Gard H1/H2 Shaded Half-Face Spectacles	Shaded	• Smoke-shaded polycarbonate contoured spectacles for closer fit and improved resistance to impact and splash hazards • Simple push button donning and doffing on the V-Gard H1 Safety Helmet—no additional frames or adapters required • Dual pivot hinge maintains a low profile to the helmet when stowed for improved field of vision and wind resistance • Frameless design with anti-fog & anti-scratch coatings improve visibility	• ANSI/ISEA Z87.1-2020 • CSA Z94.3 • EN 166	
10220915	V-Gard H1 FR (Flame-Retardant) Chinstrap	—	*For use with the V-Gard H1 Novent Safety Helmet* • 4-point FR chinstrap with multiple adjustment points for customized fit and comfort • Made from flame resistent Kevlar® fabric • Convenient rescue whistle integrated into the color-coded chinstrap buckle	• NFPA 1971, Sections 7.4.10 (ASTM D6413/D6413M) and 7.4.11 (ASTM F2894/F2894M)	
10236392 10235987 10236393	V-Gard H1 Visor Frame, *without* debris control V-Gard H1 Visor Frame, *with* debris control Debris Control for V-Gard H1 Visor Frame (replacement)	Black	*For use with V-Gard H1 Safety Helmets* • Made from high-density polyethylene and polycarbonate • Ideal for confined space, working at heights, turnarounds & plant maintenance, search & rescue	• ANSI/ISEA Z87.1-2015 • CSA Z94.3	

V-GARD H1 SAFETY HELMET ACCESSORIES

Part No.	V-Gard H1 Replacement Parts
10194760	V-Gard H1 Replacement Suspension Assembly, Fas-Trac III Pivot
10194761	V-Gard H1 Replacement Sweatband, Fas-Trac III Pivot, 3-pack
10194765	V-Gard H1 Replacement Chin Strap, Trivent
10194766	V-Gard H1 Replacement Chin Strap, Novent/Bivent

V-GARD H2 SAFETY HELMET ACCESSORIES

Part No.	V-Gard H1 Replacement Parts
10242641	V-Gard H2 Replacement Chinstrap
10242642	V-Gard H2 Replacement Crown Pad
10242643	V-Gard H2 Replacement Sweatband
10246731	V-Gard H2 Replacement Sweatband, MIPS
10242644	V-Gard H2 Replacement Padding Set
10246730	V-Gard H2 Replacement Padding Set, MIPS

V-Gard® H1 and H1 Pro Safety Helmets

Standards Information

Specification	V-GARD H1 SAFETY HELMET (GLOBAL)			V-GARD H1 PRO SAFETY HELMET (ANSI ONLY)		V-GARD H1 SAFETY HELMET (CANADA & ANSI)	
	Novent	Trivent	Bivent	Novent	Trivent	Novent	Bivent
Standards Compliance	ANSI/ISEA Z89.1-2014 EN 397:2012+A1:2012 EN 50365: 2002-05 UKCA IRAM UNE-EN 397:1995	ANSI/ISEA Z89.1-2014 EN 12492: 2012-04 UKCA	ANSI/ISEA Z89.1-2014 EN 397:2012+A1:2012 UKCA	ANSI/ISEA Z89.1-2014	ANSI/ISEA Z89.1-2014	ANSI/ISEA Z89.1-2014 CSA Z94.1-2015	ANSI/ISEA Z89.1-2014 CSA Z94.1-2015
Optional Requirements (ANSI)	LT (Low Temp) HT (High Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HT (High Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HT (High Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HT (High Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HT (High Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HV (Hi-Viz, as indicated)	LT (Low Temp) HV (Hi-Viz, as indicated)
Optional Requirements (EN)	-30°C 440 V AC ELECTROSTATIC-INERIS ATEX Dust Zones 20, 21, 22"	ELECTROSTATIC-INERIS ATEX Dust Zones 20, 21, 22"	-30°C ELECTROSTATIC-INERIS ATEX Dust Zones 20, 21, 22"				
ANSI Z89.1 & CSA Z94.1 Classification	Type I, Class E	Type I, Class C	Type I, Class C	Type I, Class E	Type I, Class C	Type I, Class E	Type I, Class C
EN12492:2012-04 Clauses ***Shock Energy Absorption Capacity*** 4.2.1.1 (vertical/top) 4.2.1.2 (front) 4.2.1.3 (lateral) 4.2.1.4 (rear)	Meets Meets Meets Meets Meets	Certified Certified Certified Certified Certified	Meets Meets Meets Meets Meets	Meets Meets Meets Meets Meets	Meets Meets Meets Meets Meets		
Penetration: 4.2.2	Meets	Certified	Meets	Meets	Meets		
Retention system 4.2.3 (strength) 4.2.4 (effectiveness)		Certified Certified		Meets Meets	Meets Meets		

V-Gard® C1™ Full-Brim Hard Hats

- **ReflectIR™ Thermal Barrier** *(patent-pending)* works to block the energy of the sun, keeping the inside of the hard hat up to 20°F (11°C) cooler[1], reducing the risk of heat stress.

Without ReflectIR | **With ReflectIR** | ⬇ **20°F**
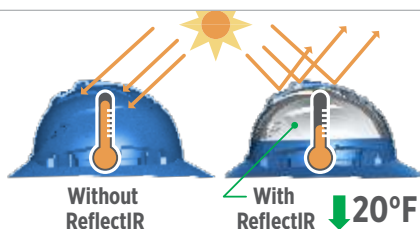
- **Largest vents MSA offers on a full-brim hat** *(vented version)* are strategically placed to optimize airflow, increase comfort and further reduce heat stress.

- **Premium moisture-wicking sweat band** pulls sweat away from the head allowing it to evaporate into the air, while breathable foam padding keeps you dry and comfortable. Can be easily removed for laundering or replacement.

- **Full brim on the V-Gard C1 Hard Hat** offers 12% more coverage[2], providing additional shade while protecting you from harmful UV rays. Unique textured brim provides added grip when donning and doffing the hard hat.

non-vented

vented

NEW!

V-GARD C1 FULL-BRIM HATS		
Color	**Non-Vented**	**Vented**
TEXTURED BRIM		
WHITE	10215837	10215828
BLUE	10215839	10215830
YELLOW	10215841	10215832
ORANGE	10215843	10215834
RED	10215838	10215829
GREEN	10215840	10215831
GRAY	10215845	10215836
BLACK	10215844	10215835
HI-VIZ® ORANGE[3]	10215842	10215833
HI-VIZ® YELLOW GREEN[3]	10237724	10236066
CUSTOM COLOR	*Custom color options available.*	

SPECIFICATIONS	Non-Vented	Vented
STANDARDS COMPLIANCE	ANSI/ISEA Z89.1-2014 (R2019)	CSA Z94.1-15
OPTIONAL REQUIREMENTS (ANSI)	LT (Low Temp) Reverse Donning	HT High Temp HV (Hi-Viz, as indicated)
ANSI Z89.1 & CSA Z94.1 CLASSIFICATION	Type 1, Class E	Type 1, Class C
3RD PARTY CERTIFICATIONS	SEI	
STYLE	Non-Vented	Vented
PRODUCT SIZE	Standard head size 6½-8 (52-64 cm head circumference)	
OTHER PPE	Compatible with all current V-Gard Hard Hat accessories: Fas-Trac III Suspension, frames, visors, hearing protection, chinstraps, sun shades, sun shields, cooling pads, & winter liners	

CUSTOMIZATION

- Full-color logos available in up to three locations:
  - Front and back
  - Front, back left, and back right
- Reflective striping available in silver or yellow up to 360° coverage: front, back, and sides
- Custom hard hat colors available

[1]Compared to a hard hat without the ReflectIR Thermal Barrier in sunny conditions; testing done with black, non-vented, V-Gard C1 Hard Hats.
[2]Compared to a full-brim V-Gard or V-Gard 500 Hard Hat.
[3]V-Gard Cap/Hat meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.

Helmet Customization For 30+ Years

Practice makes *perfect* logos

- MSA uses inks and processes that create durable logos. **We have never had a complaint about a logo "scratching off" in the 30+ years we have been in the logo business!**
- It can be tricky to avoid logo distortion due to the curvature of the hard hat. That's why MSA Logo Express® Service employs graphic designers who process logos onto hard hats. These skilled artisans ensure each logo is placed properly so it not only endures, but also accurately represents your brand and logo in color, size and shape–despite the curve of the hard hat.
- MSA offers multiple printing services from simple one-color logo to digital photos, in up to four locations
- We don't require "color-separated" artwork for 1+ color logos; nor do we require customers to identify the PMS colors in their logos. Our graphic artists can manage that, if you do not have these details.
- Re-ordering is easy because we keep your logo on file until you change it[1].

Our Process

Once your order has been received by the MSA Logo Express Service Design center we get to work. Files are imported from your on-line hard hat configuration, assessed for usability and colors separated (if the PMS colors have not been identified) and layout finalized.

Delivery

Once the layout process is complete, our factory craftsman get to work on your order. Your order for a new hard hat logo should ship within eight (8) days from our Murrysville, PA plant from the date we receive your approval on the artwork[2].

Minimum Order Quantities (MOQ)

MSA requires MOQs, by hard hat type, for logoing and striping. Qualifying MOQs of custom-imprinted or striped hard hats must be of the same size, model and options (i.e., color and suspension). MOQs are:

- 20 for V-Gard, SmoothDome®, Topgard, Comfo Cap Hard Hats, and Nexus Climbing Helmets
- 16 for Skullgard or Thermalgard® Hard Hats
- 12 for Super-V and Vanguard Hard Hats
- 40 for Bump Caps

Pricing

Please refer to your local distributor for pricing details on standard and non-standard charges that may apply to your order.

Striping

Add any of 27+ different reflective and retro-reflective stripes to your hard hat. MSA reflective stripes help enhance the visibility of workers in daytime conditions, while retro-reflective stripes[3] offer additional enhancement in nighttime or low-light conditions. Stripes are available in various sizes and shapes, and can be placed on all types of MSA hard hats.

Keep in mind too, that while you can order more stripes for self-application, MSA does not recommend doing this. The reason for this is MSA pre-treats all hard hats prior to striping with an electrical discharge treatment to enhance the ability of the stripes adhesive bonds.

Stock Logos and Slogans

With 23 "pre-built" stock logos and slogans, MSA offers more "off-the-shelf" hard hat graphics than anyone in the industry. Standard logos make it easy for you to place emphasis on safety, patriotism or personnel identification without having to develop your own artwork. They can be can be used alone or with your customized logo and striping.

Hard Hat Color Choices

MSA offers more stocked color options than competitors—in our popular V-Gard hard hat, we offer 21 stocked colors. There are non-stocked color options available for all MSA hard hats; a qualifying MOQ of 100 hard hats is required.

You can create a shell color of your choice. You need only order a qualifying MOQ of 500 hard hats or more.

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[1] Files are purged from MSA's system if no logoed hard hat order is received within three (3) years of the first order.
[2] Orders for repeat logos ship within seven (7) days. This includes 2-3 days for order processing, and 5 days for production.

Placing Customized Hard Hat Orders

Steps to complete your online logo configuration order:

Summary of how to submit artwork to MSA Logo Express Service *Please review the document for process details.*	
METHOD FOR SUBMITTING ARTWORK	Electronic file emailed to your MSA distributor
PROGRAMS FOR SUBMITTING ARTWORK	Corel Draw *(version x6 or lower)* Adobe Illustrator *(version cs6 or lower)* Adobe Photoshop *(version cs6 or lower)*
ARTWORK FILES	**VECTOR FILES:** .cdr *(Corel Draw)* .ai *(Adobe Illustrator)* .eps *(encapsulated postscript)*

Submitting Artwork

1. Send the artwork by email to the MSA distributor taking your order. They will send it to MSA Logo Express Service.
2. Name the Pantone Matching System (PMS) ink colors used in your artwork (if you know them). Type the actualnumbers in the email, as colors sometimes don't transmit properly through email. For example, MSA's logo is green, but specifically, the color of our brand logo is PMS 355.
3. Provide all linked graphics and fonts (see "Font Submission")

Note: *Should you not have access to email please contact MSA Logo Express for alternate methods.*

Did you know?

*If you **only** have other types of artwork, (e.g. printed copies of letterhead or business cards), please contact MSA Logo Express Service for submission instructions.*

The "Try-It" Sample Program

The "Try It" sample program offers some of the most popular MSA head, eye, face and hearing protection products, including V-Gard Helmets, V-Gard Accessories, left/RIGHT Hearing Protection, and Sightgard® Eyewear —completely FREE of charge! Look for the TRY IT! that tells you which products are included in the program.

See what a logoed V-Gard Cap, Hat or 500 Helmet looks like. Pre-designed logoed hard hat samples are available through the FREE sample Try It program. Contact your MSA sales representative for more details.

? Questions About Helmet Customization?

Contact your MSA distributor or MSA Logo Express Service.

EMAIL: Logo.Express@msasafety.com

PHONE: 1-800-MSA-LOGO (1-800-672-5646)

ADDRESS: MSA Logo Express 3880 Meadowbrook Rd. Murrysville, PA 15668-1753

Visit us on the web: **us.msasafety.com/logoexpress KEYWORD: Logo**

Replacement Suspensions for MSA Hard Hats

MSA Fas-Trac® III Ratchet Suspension

The MSA Fas-Trac III Suspension helps to reduce pressure headaches and pulled hair, and stays on your head.

❶ Sweatband fully covers headband and worker's forehead
❷ Three levels of nape strap adjustment for customized fit
❸ Lower nape strap improves retention
❹ Smooth ratchet rotation and secure hold

Learn how the Fas-Trac III Suspension can relieve your headaches.
Visit **www.MSAsafety.com/fastrac.**

HELMET TYPE (SIZE)	Suspension Type (4-point, unless otherwise noted)			
	Fas-Trac III	**1 Touch**	**Staz-On**	**Swing Ratchet[1]**
V-GARD CAP OR HAT (STANDARD)	10148708 TRY IT!	10061123 TRY IT!	10087218	816645
V-GARD CAP (SMALL)	10148706	–	467386	–
V-GARD CAP (LARGE)	10148707	–	492566	–
V-GARD 500 CAP (STANDARD)	10148708	1 0061123	10087218	816645
V-GARD 500 HAT (STANDARD)	10148708	–	10087218	–
SMOOTHDOME CAP (STANDARD)	10148708	10061123	10087218	816645
TOPGARD CAP OR HAT (STANDARD)	10153384 TRY IT!	10061127	–	816648
THERMALGARD CAP (STANDARD)	10153384 TRY IT!	10061127	–	816648
SKULLGARD CAP OR HAT (STANDARD)	10153385	10061128	454231	816654
SKULLGARD CAP (LARGE)	10126693	–	468096	–
SUPER-V CAP (STANDARD)	10126683	–	–	–
VANGUARD CAP (STANDARD)	10153386	–	–	–
COMFO-CAP (STANDARD)	10153385	10061128	454231	–

[1]Swing ratchet size is 6½ through 7⅝

The **Fas-Trac III Suspension sweatband** accessory keeps workers cool and dry.

	Part No.	Product Specifics
	10153518 TRY IT!	• For use with MSA Fas-Trac® III Suspension • Optional, moisture-wicking and washable • Can be attached/replaced while suspension is assembled in helmet • Sold ONLY in packages of 10

⚠ WARNING

Use only the indicated MSA suspension in your MSA helmet. Do not mix suspension sizes and helmet sizes (i.e., putting a standard sized suspension in a large helmet or any other mismatched combination). Do not use competitor suspensions in MSA helmets. Inspect your suspension frequently. Suspensions should be replaced every 12 months, regardless of inspection results. Replace immediately (along with the helmet), if an impact has occurred. Failure to follow these instructions will reduce the energy absorbing ability of the protective helmet to receive impact, and could result in serious injury or death.

DID YOU KNOW?
NFPA 70E is a work practice; it is not a standard and does not specify any test methods. No products "meet" NFPA 70E—users simply follow the practice of NFPA 70E. For head protection, NFPA 70E recommends that users wear Class E hard hats in following this work practice.
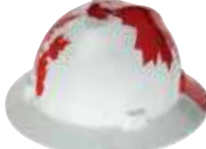
Freedom Series™ and Specialty V-Gard® Hard Hats

Classification.........................Type I		**Suspension**...........................Fas-Trac III	
Application..............................General purpose		**Sizes**...Standard (6½ – 8)	
Shell Material ....Polyethylene with thermoformed graphics		**Standards**...............................ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)	
Styles......................................Slotted cap; Slotted full-brim hat (Freedom Series only)		**Certification**...........................Third-party by SEI	

AMERICAN FREEDOM SERIES ASSEMBLIES

American Stars and Stripes *V-Gard Slotted Cap* Part No. **10052945**	**American Stars and Stripes** *V-Gard Slotted Hat* Part No. **10071157**	**American Flag w/2 Eagles** *V-Gard Slotted Cap* Part No. **10052947**	**American Flag w/2 Eagles** *V-Gard Slotted Hat* Part No. **10071159**
Camouflage *V-Gard Slotted Cap* Part No. **10103908**	**Camouflage** *V-Gard Slotted Hat* Part No. **10104254**	**American Eagle** *V-Gard Slotted Cap* Part No. **10079479**	**Dual American Flag** *V-Gard Slotted Cap* Part No. **10050611**

CANADIAN FREEDOM SERIES ASSEMBLIES

White w/Red Maple Leaf *V-Gard Slotted Cap* Part No. **10050613**	**White w/Red Maple Leaf** *V-Gard Slotted Hat* Part No. **10082234**	**Black w/Red Maple Leaf** *V-Gard Slotted Cap* Part No. **10082233**	**Black w/Red Maple Leaf** *V-Gard Slotted Hat* Part No. **10082235**
Camouflage w/Canadian Flag on front[1] *V-Gard Slotted Cap* Part No. **10104925**			

SPECIALTY V-GARD ASSEMBLIES

Rally Cap *V-Gard Slotted Cap* Part No. **10101535**	**Metallic Gold** *V-Gard Slotted Cap* Part No. **10101854**	**Black Fire** *V-Gard Slotted Cap* Part No. **10092015**	

CUSTOMIZATION: Imprinting and striping available—see pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

[1]*Not pictured*
[2]*Extreme Hi-Viz Cap meets high-visibility requirements of ANSI/ISEA 107.*

Hydro Dip V-Gard® Hard Hats

Classification.........................Type I		**Sizes**..Standard (6½ – 8)	
Application............................General purpose		**Standards**...............................ANSI/ISEA Z89.1-2014 (Class E);	
Shell Material ....Polyethylene		CSA Z94.1-2015 (Class E)	
Styles..Slotted cap; Slotted full-brim hat		**Certification**..........................Third-party by SEI	
Suspension............................Fas-Trac III			

The #1 Selling Hard Hat Has a New Look!

The features that have set the MSA V-Gard as a world leader in head protection remain: comfort, durability, customization, and support. The hydro dip finish provides a new twist on style, without sacrificing safety or performance. Choose from eight different standard looks, with the ability to customize to your specific design.* All V-Gard hydro dip hard hats come with the first-in-class comfort of the Fas-Trac® III Suspension and are products of the U.S.

HYDRO DIP V-GARD ASSEMBLIES

STANDARD CAP STYLES

Muddy Girl *V-Gard Slotted Cap* Part No. **10204770**	One Nation *V-Gard Slotted Cap* Part No. **10204771**	Italian Leather *V-Gard Slotted Cap* Part No. **10204773**	Oilfield Camo *V-Gard Slotted Cap* Part No. **10204774**
Multi Camo *V-Gard Slotted Cap* Part No. **10204775**	Silver Carbon Fiber *V-Gard Slotted Cap* Part No. **10204776**	Sport Carbon Fiber *V-Gard Slotted Cap* Part No. **10204777**	Devil's Kanyon *V-Gard Slotted Cap* Part No. **10204778**

STANDARD FULL-BRIM HAT STYLES

Muddy Girl *V-Gard Slotted Hat* Part No. **10204779**	One Nation *V-Gard Slotted Hat* Part No. **10204780**	Italian Leather *V-Gard Slotted Hat* Part No. **10204782**	Oilfield Camo *V-Gard Slotted Hat* Part No. **10204783**
Multi Camo *V-Gard Slotted Hat* Part No. **10204784**	Silver Carbon Fiber *V-Gard Slotted Hat* Part No. **10204785**	Sport Carbon Fiber *V-Gard Slotted Hat* Part No. **10204786**	Devil's Kanyon *V-Gard Slotted Hat* Part No. **10204787**

*Restrictions apply

V-Gard® 500 Hard Hats

Vented V-Gard 500 Caps and Hats provide cooling vents for improved air circulation and comfort; **Non-Vented V-Gard 500 Caps and Hats** provide dielectric head protection.

Classification	Type I
Application	General purpose
Shell Material	Polyethylene
Styles	Vented or non-vented slotted cap; Vented or non-vented hat
Sizes	Standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Vented Class C; Non-Vented Class E)
	CSA Z94.1-2015 (Vented Class C; Non-Vented Class E)
Certification	Third-party by SEI

Color		w/4-Point Fas-Trac III Suspension	w/6-Point Fas-Trac III Suspension	
VENTED CAP				
WHITE		10034018	10034027	TRY IT!
BLUE		10034019	10034028	TRY IT!
YELLOW		10034020	10034029	TRY IT!
RED		10034022	10034031	TRY IT!
GREEN		10034023	10034032	TRY IT!
HI-VIZ ORANGE[1]		10034026	10034035	TRY IT!
HI-VIZ YELLOW-GREEN[1]		10074819	10074820	TRY IT!
NON-VENTED CAP				
WHITE		10034088	10034097	

Color		w/4-Point Fas-Trac III Suspension	w/6-Point Fas-Trac III Suspension	
VENTED FULL-BRIM HAT				
WHITE		10167911	10167950	TRY IT!
BLUE		10167912	10167951	TRY IT!
YELLOW		10167913	10167952	TRY IT!
RED		10167915	10168437	TRY IT!
GREEN		10167916	10168438	TRY IT!
HI-VIZ ORANGE[1]		10167921	10168453	TRY IT!
HI-VIZ YELLOW-GREEN[1]		10167931	10168461	TRY IT!
NON-VENTED FULL-BRIM HAT				
WHITE		10168521	10168589	

CUSTOMIZATION: Imprinting and striping available—pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

Topgard® Hard Hats

Classification	Type I
Application	General purpose; elevated temperature[2]
Shell Material	Polycarbonate
Styles	Slotted cap; Non-slotted full-brim hat
Sizes	Standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Class E)
	CSA Z94.1-2015 (Class E)
Certification	Third-party by SEI

White w/lamp bracket

Color		w/ 1 Touch Suspension	w/ Fas-Trac III Suspension	
TOPGARD SLOTTED CAP (STANDARD SIZE)				
WHITE		454728	475385	TRY IT!
YELLOW		454721	475378	TRY IT!
GRAY		454722	475379	
BLUE		454723	475380	TRY IT!
ORANGE		454725	475382	
GREEN		454726	475383	
RED		454727	475384	TRY IT!
BRIGHT ORANGE		—	804396	
WHITE W/LAMP BRACKET & CORD HOLDER		448914	—	

Color		w/ 1 Touch Suspension	w/ Fas-Trac III Suspension	
TOPGARD SLOTTED HAT (STANDARD SIZE)				
WHITE		454719	475393	TRY IT!
YELLOW		454712	475387	TRY IT!
GRAY		454713	—	
BRIGHT ORANGE		—	804397	

CUSTOMIZATION: Imprinting and striping available—pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

[1]V-Gard Cap/Hat meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.
[2]Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Topgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 257°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.

SmoothDome® Hard Hats

Classification	Type I
Application	General purpose; welding
Shell Material	Polyethylene
Styles	Vented or non-vented slotted cap
Sizes	Standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Certification	Third-party by SEI

Color		w/4-Point Fas-Trac III Suspension	w/6-Point Fas-Trac III Suspension
SMOOTHDOME CAP (STANDARD SIZE)			
WHITE		10074067	10084078
BLUE		10074068	10084079
YELLOW		10074069	10084080
ORANGE		10074070	10084081
RED		10074071	10084082
GREEN		10074072	10084083
GRAY		10074073	10084084
HI-VIZ ORANGE[1]		10074077	10084088
HI-VIZ YELLOW-GREEN[1]		10074084	10084095
HI-VIZ ORANGE *w/yellow-green stripe*[1]		10095987	10095988
HI-VIZ YELLOW-GREEN *w/orange stripe*[1]		10095989	10095990
HI-VIZ ORANGE *w/silver stripe*[1]		10096141	—
HI-VIZ YELLOW-GREEN *w/silver stripe*[1]		10096142	—

CUSTOMIZATION: Imprinting and striping available—pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

Thermalgard® Hard Hats

Classification	Type I
Application	General purpose; elevated temperature[2]
Shell Material	Glass-reinforced nylon
Styles	Slotted cap
Sizes	Standard (6½ – 8)
Standards	ANSI/ISEA Z89.1-2014 (Class G); CSA Z94.1-2015 (Class G)
Certification	Third-party by SEI

Color		w/ 1 Touch Suspension	w/ Fas-Trac III Suspension
THERMALGARD CAPS (STANDARD SIZE)			
YELLOW		486964	486959
WHITE		486965	486960
RED		—	486961
ORANGE		486967	486962
BLUE		486968	486963
BRIGHT ORANGE		800359	800360
GREEN		487399	814343
STEEL GRAY		—	10095325

CUSTOMIZATION: Imprinting and striping available—pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

[1]V-Gard Cap/Hat meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.
[2]Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Thermalgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 350°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.

Skullgard® Hard Hats

Classification.....................Type I
Application.........................General purpose; elevated temperature[1]
Shell Material...................Phenolic
Styles................................Non-slotted cap; full-brim hat
Sizes.................................**Cap:** Standard (6½ – 8); Small (6 – 7⅛); Large (7 – 8½)
                                      Hat: Standard (6½ – 8)
Standards..........................ANSI/ISEA Z89.1-2014 (Class G)
Certification......................Third-party by SEI

	Color	w/ Staz-On Suspension	w/ Fas-Trac III Suspension	w/ Swing-Ratchet Suspension
SKULLGARD CAP (STANDARD SIZE)				
NATURAL TAN		454617	475395	816651
WHITE		454618	475396	—
YELLOW		454619	475397	—
RED		454620	—	—
GREEN		454621	—	—
GRAY		454622	—	—
BLUE		454623	—	—
ORANGE		454626	—	—
HI-VIZ RED-ORANGE[2]		458702	—	—
SKULLGARD HAT (STANDARD SIZE)				
NATURAL TAN		454664	475407	—
WHITE		454665	475408	—
YELLOW		454666	—	—
GREEN		454668	—	—
ORANGE		454673	—	—

		w/ Staz-On Suspension	w/ Fas-Trac III Suspension	
ALTERNATIVE SKULLGARD ASSEMBLIES				
SKULLGARD CAP		82018	475405	Large size, natural tan
		—	10104377	Small size, natural tan
		460409	—	Standard size, with lamp bracket and cord holder, natural tan[3]
		—	482002	With welder's lugs, natural tan[3]
SKULLGARD HAT		460389	—	Standard size, with lamp bracket and cord holder, natural tan[3]

CUSTOMIZATION:
Imprinting and striping available—pages 83–84
REPLACEMENT SUSPENSIONS: See page 85

Super V® Hard Hats

Classification...................Type II (ANSI and CSA)
Application.......................Lateral protection
Shell Material..................Polyethylene
Styles..............................Slotted cap w/foam liner
Sizes...............................Standard (6½ – 7⅜)
Standards........................ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Certification....................Third-party by SEI

Color		w/Fas-Trac III Suspension	
SUPER V ASSEMBLIES			
WHITE		C217091	TRY IT!
YELLOW		C217093	TRY IT!
RED		C217095	
ORANGE		C217094	
BLUE		C217092	
NAVY GRAY		C217097	
HI-VIZ ORANGE[2]		C217100	

Color		w/Fas-Trac III Suspension
SUPER V ASSEMBLIES		
GREEN		C217096
GOLD		C217098
BLACK		C217140
SILVER		10025227

⚠ **WARNING**

Use only MSA's Fas-Trac III Suspension designed for Super-V Helmets. Use of any other suspension will reduce the energy-absorbing ability of the protective helmet, which can result in serious personal injury or death.

CUSTOMIZATION: Imprinting and striping available—pages 83–84   **REPLACEMENT SUSPENSIONS:** See page 85

[1] Helmets marked with the HT designation have been certified to the optional Higher Temperature test of ANSI/ISEA Z89.1. In this test, helmets are pre-conditioned in an oven at 60°C ± 2°C (140°F ± 3.6°F) and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. In addition, Skullgard Helmets were exposed to a radiant heat load until the surface temperature on the top of the helmet reaches 350°F and then tested per the ANSI/ISEA Z89.1 Industrial Head Protection Standard for top force transmission. The source of the radiant heat load was located above the top of the helmet. This testing is performed by MSA and is not part of the helmet certification process.

[2] Hi-Viz red-orange Skullgard Cap and Hi-Viz orange Super V Cap meets voluntary standard for hi-visibility as prescribed by ANSI/ISEA Z89.1-2014. Look for official hi-visibility marking [HV] on the helmet's ANSI label.

[3] Alternative Skullgard Assemblies that include welder's lugs or lamp bracket and cord holder are certified to Class C electrical rating.

Comfo-Cap® Hard Hats

Classification............. Type I
Application.................. Mining
Shell Material .... Polycarbonate
Styles............................ Non-slotted cap w/ lamp bracket & cord holder
Sizes............................ Standard (6½ – 8)
Standards.................... ANSI/ISEA Z89.1-2014 (Class G)
Certification............... Third-party by SEI

Color		w/ Staz-On Suspension	w/ Fas-Trac III Suspension
COMFO CAP ASSEMBLIES			
WHITE		91522	475336
BLUE		91586	—
YELLOW		91585	—
ORANGE		91589	—
RED		91590	—
GREEN		91584	—
BLACK		82769	—

CUSTOMIZATION:
Imprinting and striping available—pages 83–84
REPLACEMENT SUSPENSIONS: See page 85

Miner's Support System

- Lightweight, sturdy miner's belt
- Offers comfort, lumbar support, versatility and durability
- Enables miner to carry cap lamp battery pack, filter self-rescuer, SCSR, tools, etc., on the job
- 1″ reflective strip sewn over 2″ nylon strap makes support system highly visible

MINER'S SUPPORT SYSTEM	696757	Miner's support system, SM (28–34)
	696758	Miner's support system, MD (34–44)
	696759	Miner's support system, LG (44–52)

▶ **Other MSA Products for Mining Applications**
For W65 Self-Rescuer, see page 19.
For ALTAIR 4X MSHA Portable Gas Detector, see page 60.

Bump Caps

Classification............. Non
Application.................. Non-impact
Shell Material .... Polyethylene
Styles............................ Non-slotted cap w/ plastic suspension
Sizes............................ Standard (6½ – 8)
Standards.................... Not applicable
Certification............... None

Color		w/ Plastic Suspension
BUMP CAP ASSEMBLIES		
WHITE		10033652
BLUE		10033650
YELLOW		10033651
ORANGE		10033654
RED		10033653
GREEN		10033655

⚠ **WARNING**

Bump caps are not safety helmets and do not meet OSHA or ANSI/ISEA Z89.1 requirements. DO NOT use bumps caps for impact protection, for sports or when an ANSI-compliant helmet is required.

CUSTOMIZATION:
Imprinting and striping available (locations limited)

V-Gard® Accessory System: V-Gard® Frames for Cap-Style Hard Hats

V-GARD UNIVERSAL CAP FRAME

Part No.	Debris Control	Product Specifics	
10187161	With debris control	**Easy to Use** • Add and remove accessories[1] • Quicker visor installation and removal • Green color coded parts **Built to Last** • Infinity joints • Universal strap • Debris control	**Reducing Complexity** • Designed to work with all MSA V-Gard cap-style hard hats
10187162	Without debris control	**Easy to Use** • Add and remove accessories[1] • Quicker visor installation and removal • Green color coded parts **Built to Last** • Infinity joints • Universal strap	**Reducing Complexity** • Designed to work with all MSA V-Gard cap-style hard hats

Part No.	Product Specifics
10187163	Replacement debris wiper

Part No.	Product Specifics
10187251	Replacement rubber strap

V-GARD FRAMES FOR GENERAL PURPOSES

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

Standards[2]: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Material	Debris Control	Product Specifics	
10115730	High density polyethylene (HDPE)	Includes replaceable debris control which creates tight seal between frame and cap	• Fits all MSA Slotted Caps • Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[3] • Sliding adjustment bladesallow visor to work with most half-mask respirators and other PPE worn under a visor	
10121266	High density polyethylene (HDPE)	Debris control sold separately	• Fits all MSA Slotted Caps[4] • Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[3] • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor	

⚠ WARNING

Use V-Gard Frames ONLY with V-Gard Visors, to ensure compliance with safety standards. Misuse can result in death, permanent impairment of sight, or other serious injury.

[1]MSA does not recommend the use of the V-Gard Universal Frame with the MSA SmoothDome when using cap-mounted muffs and large V-Gard molded Visors. The V-Gard Frame for Slotted Caps should be worn with this particular combination.
[2]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.
[3]Patent pending
[4]MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.

V-Gard® Accessory System: V-Gard® Frames for Cap-Style Hard Hats

V-GARD FRAMES FOR ELEVATED TEMPERATURE APPLICATIONS

Markets: Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, and steam tunnels

Applications: Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

Features: Tested to withstand temperatures of 350°F (176.7°C), reducing warping, cracking or crazing

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Material	Debris Control	Product Specifics	
10115821	Polycarbonate — all non-metal construction	Replaceable debris control tested against EN 166 hot solids requirements	• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs[2] • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor	
10121267	Polycarbonate — all non-metal construction	Debris control sold separately[3]	• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor	
10116552	Polycarbonate — all non-metal construction	Replaceable debris control tested against EN 166 hot solids requirements	• Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models[4] • Design allows use with other PPE, including MSA earmuffs and respirators	

V-Gard® Accessory System: V-Gard® Frames for Full-Brim Hard Hats

V-GARD FRAMES FOR GENERAL PURPOSES

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Material	Debris Control	Product Specifics	
10116627	High density polyethylene (HDPE)	Offered without debris control ONLY	• Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models • Design allows use with other PPE, including MSA earmuffs and respirators • Fits MSA Full-Brim Safety Helmets	

V-GARD FRAMES FOR ELEVATED TEMPERATURE APPLICATIONS

Markets: Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, and steam tunnels

Applications: Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

Features: Tested to withstand temperatures of 350°F (176.7°C), reducing warping, cracking or crazing

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Material	Debris Control	Product Specifics	
10116628	Polycarbonate — all non-metal construction	Offered without debris control ONLY	• Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models • Design allows use with other PPE, including MSA earmuffs and respirators • Fits MSA Full-Brim Safety Helmets	

[1]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.
[2]Patent pending
[3]MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.
[4]MSA does not recommend the use of the V-Gard Universal Frame with the MSA SmoothDome when using cap-mounted muffs and large V-Gard molded Visors. The V-Gard Frame for Slotted Caps should be worn with this particular combination.

V-Gard® Accessory System: V-Gard® Frames for MSA Slotted Full-Brim Hard Hats

V-GARD FRAMES FOR GENERAL PURPOSES

Markets: Oil, gas & petrochemical, manufacturing, repair and maintenance, construction, general industry, forestry, shipbuilding, metalworking, automotive, mining
Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3
Certification/Testing: CSA International and Intertek
Min Order Qty: 10

Part No.	Material	Debris Control	Product Specifics	
10154622	Polybutylene terephthalate (PBT)	Sold with replaceable debris control which creates tight seal between frame and hat	• Fits MSA Slotted Full Brim Hats • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor • Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost [2]	
10154604	Polybutylene terephthalate (PBT)	Debris control sold separately	• Fits MSA Slotted Full Brim Hats • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor • Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost [2]	
10116628	All rubber construction	Exceeds EN requirements for molten metal	Debris Control	

V-Gard® Accessory System: V-Gard® Metal Frames for Hard Hats

V-GARD FRAMES FOR GENERAL PURPOSES AND ELEVATED TEMPERATURE APPLICATIONS

Markets: Manufacturing; construction; steel/smelting operations
Applications: Machine operation, maintenance, millwright, extrusion, drilling, blasting, casting/conveying

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3
Certification: Third-party by Intertek, CSA International (as marked)

Part No.	Material	Product Specifics	
10158799	Heavy-duty anodized aluminum	• For use with **MSA cap-style hard hats** • Spring coil for fast loading of frame to helmet • Three visor resting positions • Locking device holds visor securely in the down position	
10158800	Heavy-duty anodized aluminum	• For use with **MSA Skullgard cap-style hard hats** • Spring coil for fast loading of frame to helmet • Three visor resting positions • Locking device holds visor securely in the down position	
10176739	Heavy-duty anodized aluminum	• For use with **MSA full-brim hard hats** • Spring coil for fast loading of frame to helmet • Three visor resting positions • Locking device holds visor securely in the down position	

⚠ WARNING

MSA does not recommend V-Gard Metal Frames for use where electrical hazards, including but not limited to arc flash, could occur.

[1]Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.
[2]Patent pending

V-Gard® Accessory System: Visors

V-GARD VISORS: GENERAL PURPOSE

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Product Specifics	
	Impact-rated (Z87+) with Maximum UV Protection	
10144486	**Material** Polycarbonate — clear	• 5" (14.61 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards • Approved to ANSI and CSA[2] standards; does not meet EN standards ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**	
10115836	**Material** Polycarbonate — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards	
10115837	**Material** Polycarbonate — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**	
10120108	**Material** Polycarbonate — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Bulk pack of 20 • Contoured visor; closer fit and improved resistance to impact and splash hazards	
10115863	**Material** Polycarbonate — clear	• 9.5" (24.1 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards	
10115839	**Material** Polycarbonate with antifog/anti-scratch coatings for humid conditions — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm) • Slightly thicker for industrial impact applications resistance to impact and splash hazards • Contoured visor; closer fit and improved resistance to impact and splash hazards	
10115841	**Material** Polycarbonate with antifog/anti-scratch coatings for humid conditions — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm) • Slightly thicker for industrial impact applications resistance to impact and splash hazards • Contoured visor; closer fit and improved resistance to impact and splash hazards ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**	
10115842	**Material** Polycarbonate with antifog/anti-scratch coatings for humid conditions — green tint to reduce glare	• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm) • Slightly thicker for industrial impact applications resistance to impact and splash hazards • Contoured visor; closer fit and improved resistance to impact and splash hazards ◆ **Not for use where a Shade infrared (IR) visor is required**	

[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

V-Gard® Accessory System: Visors

V-GARD VISORS: GENERAL PURPOSE

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

Standards[1]: ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 10

Part No.	Product Specifics		
	Impact-rated (Z87+) with Maximum UV Protection		
10115840	**Material** Polycarbonate — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm) • Slightly thicker for industrial impact applications resistance to impact and splash hazards • Contoured visor; closer fit and improved resistance to impact and splash hazards	
10117783	**Material** Polycarbonate — clear	• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52 mm) • Slightly thicker for industrial impact applications resistance to impact and splash hazards • Wider design; improved resistance to impact and splash hazards • Does not meet CSA Z94.3 ■ Flat Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors	

V-GARD VISORS: GENERAL PURPOSE (NON-IMPACT)

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Flying chips and other light debris

Standards[1]: ANSI/ISEA Z87.1-2015; EN 1731-F; and AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., and SAI Global Ltd.

Min Order Qty: 10

Part No.	Product Specifics		
	General Protector (Z87) — NOT FOR IMPACT HAZARDS		
10116557	**Material** Epoxy-coated steel mesh (20 x 20) — black, plastic edged	• 8" (20.3 cm) x 17" (43.2 cm) • Not for use against splash, impact, elevated temperatures or UV hazards • Can be worn with earmuffs	
10116558	**Material** Epoxy-coated steel mesh (20 x 20) — black, plastic edged	• 8" (20.3 cm) x 17" (43.2 cm) • Not for use against splash, impact, elevated temperatures or UV hazards • Can be worn with earmuffs ■ Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors	
10158822	**Material** Epoxy-coated steel mesh (20 x 20) — aluminum-bound mesh	• 8" (20.3 cm) x 16.5" (41.9 cm) • Not for use against splash, impact, electrical or UV hazards	

[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

V-Gard® Accessory System: Visors

V-GARD VISORS: HEAVY-DUTY CHEMICAL AND SPLASH

Markets: General industry, heavy manufacturing, laboratories, chem/petrochemical, agriculture, pharmaceutical, oil and gas, mining
Applications: Chipping, splash, chemical mixing, grinding, machining, power fastening, sanding, sawing

Standards[1]: ANSI/ISEA Z87.1-2015; EN 166 (MSA 1B 3); CSA Z94.3 and AS/NZS 1337
Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.
Min Order Qty: 5

Part No.	Product Specifics		
	Impact-rated (Z87+)		
10115855	**Material** Propionate — clear	•8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm) •Extra-thick to help prevent warping, cracking or crazing under tough conditions •Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details	
10115856	**Material** Propionate — clear	•8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm) •Extra-thick to help prevent warping, cracking or crazing under tough conditions ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors** •Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details	
10115851	**Material** Propionate — clear	•9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5mm) •Extra-thick to help prevent warping, cracking or crazing under tough conditions •Extended length and width for greater coverage of neck and face •Please refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for chemical performance details	

NOTE: V-Gard propionate Visors offer both chemical resistance and impact protection, unlike most propionate visors on the market. Not only are they marked with Z87+, but the clear visors are also compliant with EN166, meaning they were tested at a velocity nearly 32% faster than ANSI/ISEA Z87.1-2010.

V-GARD VISORS: ELEVATED TEMPERATURE WITH HIGH-PERFORMANCE ANTI-FOG/ANTI-SCRATCH COATINGS

Markets: Food manufacturing/canneries, steel mills, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, steam tunnels
Applications: Hot/humid conditions, chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing, outdoor work

Standards[1]: ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT9KN); CSA Z94.3 and AS/NZS 1337
Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.
Min Order Qty: 5

Part No.	Product Specifics		
	Impact-rated (Z87+) with Maximum UV Protection		
10115853	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear	•10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm) •**Molded** visor for superior optics under heavy-duty use •Extended length for greater coverage of neck/face •Performs well against many chemicals. Refer to MSA's *Chemical Application Quick Reference Guide* (ID 0670-007-MC) for details	
10115854	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — green tint to reduce glare	•10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm) •**Molded** visor for superior optics under heavy-duty use •Extended length for greater coverage of neck/face ◆ **Not for use where a Shade infrared (IR) visor is required**	

NOTE: V-Gard molded, green and clear visors offer superior optical quality and resistance to many chemicals. For details on optics, please refer to the MSA White Paper, "Optical Quality Requirements and V-Gard® Visors" (ID 0302-32 MC) available for download from MSA's Asset Library.

[1]*Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*

V-Gard® Accessory System: Visors

V-GARD VISORS: ELEVATED TEMPERATURE

Markets: Food manufacturing/canneries, steel mills, construction, open pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing, steam tunnels

Applications: Food processing, machine operation, maintenance, millwright, cutting, punching, extrusion, drilling, blasting, casting/conveying, chemical mixing, sanding

Standards[1]: ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT89KN); CSA Z94.3 and AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 5

Part No.	Product Specifics		
	Impact-rated (Z87+) with Maximum UV Protection		
10115844	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear	• 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm) • **Molded** visor for superior optics under heavy-duty use • Extra-thick visor helps prevent warping, cracking or crazing • Conditioned to a high of 131˚F (and a low of -23˚F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010) ⬤ **Visors do not reflect IR; not recommended for use against radiant heat hazards**	
10115845	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — green tint to reduce glare	• 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm) • **Molded** visor for superior optics under heavy-duty use • Extra-thick visor helps prevent warping, cracking or crazing • Conditioned to a high of 131˚F (and a low of -23˚F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010) ⬤ **Visors do not reflect IR; not recommended for use against radiant heat hazards** ◆ **Not for use where a Shade infrared (IR) visor is required**	

NOTE: V-Gard molded, green and clear visors offer superior optical quality and resistance to many chemicals. For details on optics, please refer to the MSA White Paper, "Optical Quality Requirements and V-Gard® Visors" (ID 0302-32 MC) available for download from MSA's Asset Library.

V-GARD VISORS: RADIANT HEAT/ELEVATED TEMPERATURE

Markets: Metal industries, glass manufacturing, iron and steel foundries, chemical manufacturing, construction, general manufacturing, textile manufacturing, mining, oil and gas

Applications: Grinding, pouring, casting, blowing/melting, rolling, sawing, cutting, crimping, millwrighting, machining/operating, pipelining, pulping

Standards[1]: ANSI/ISEA Z87.1-2015; EN 166 (2C-2.5 MSA 1BT3R [clear] and 2-4 MSA 1BT3R [green tint]); CSA Z94.3 and AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Min Order Qty: 5

Part No.	Product Specifics		
	Impact-rated (Z87+) with Maximum UV Protection		
10115848	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) — clear	• 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm) • Reflective coating reflects IR and helps dissipate heat: reflects >60% Infrared (IR) radiation (EN166 R mark) in the 780nm to 2000nm wavelength • Thick visor helps prevent warping, cracking or crazing • Extended length for greater coverage of face and neck; **DO NOT use for welding**	
10115850	**Material** Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively)—– green tint to reduce glare	• 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm) • Reflective coating reflects IR and helps dissipate heat: reflects >60% Infrared (IR) radiation (EN166 R mark) in the 780nm to 2000nm wavelength • Thick visor helps prevent warping, cracking or crazing • Extended length for greater coverage of face and neck; **DO NOT use for welding** ◆ **Not for use where a Shade infrared (IR) visor is required**	

NOTE: Reflective-coated visors offer protection from irradiance, or the electromagnetic radiation (EMR) energy created in elevated temperature environments. V-Gard Reflective Coated Visors offer an EN166 "R" mark. This means they have been certified to reflect >60% Infrared (IR) radiation in the 780 nm to 2000 nm wavelengths. V-Gard Reflective Visors have been shown to reduce temperatures behind the visor by several hundred degrees, and lower irradiance to below 0.1 kW/m^2. For details on V-Gard Reflective-Coated Visor performance, please see the MSA White Paper, "Radiant Heat Resistance" (ID 0670-020 MC) and "MSA V-Gard® Reflective-Coated Visors: Radiant Heat Resistance Simplified" (ID 0670-023 MC), available on MSAsafety.com.

[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

V-Gard® Accessory System: Visors

V-GARD VISORS: WELDING (SHADE 3, SHADE 5, AND SHADE 8)

Markets: Fabrication, steel mills, shipbuilding, construction, open-pit mining, agriculture, oil/gas/petrochemical refineries, rubber manufacturing
Applications: Welding, metal pouring, gas soldering, light cutting/brazing, manufacturing, impact and debris
Min Order Qty: 5

Part No.	Product Specifics		
	Impact-rated (Z87+)		
10115859	**Material** Polycarbonate — Shade 3 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3 · EN 166 · AS/NZS 1337	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • Thickness helps prevent pitting and warping from heat or weld spatter
10115860	**Material** Polycarbonate — Shade 3 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3 · EN 166 · AS/NZS 1337	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • Thickness helps prevent pitting and warping from heat or weld spatter ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**
10115861	**Material** Polycarbonate — Shade 5 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3 · EN 166 · AS/NZS 1337	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • Thickness helps prevent pitting and warping from heat or weld spatter
10115862	**Material** Polycarbonate — Shade 5 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3 · EN 166 · AS/NZS 1337	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • Thickness helps prevent pitting and warping from heat or weld spatter ■ **Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors**
10236001	**Material** Polycarbonate — Shade 8 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • For welding, cutting and brazing applications • Thick and molded to protect against damage from impact, elevated temperatures, weld spatter and infrared (IR) radiation. • Ideal for autogenous welding, metal pouring, gas soldering and light cutting/ brazing, they're engineered for heavy-duty use.
10246714	**Material** Polycarbonate — Shade 10 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • For welding, cutting and brazing applications • Thick and molded to protect against damage from impact, elevated temperatures, weld spatter and infrared (IR) radiation. • Ideal for autogenous welding, metal pouring, gas soldering and light cutting/ brazing, they're engineered for heavy-duty use.
10246715	**Material** Polycarbonate — Shade 12 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • For welding, cutting and brazing applications • Thick and molded to protect against damage from impact, elevated temperatures, weld spatter and infrared (IR) radiation. • Ideal for autogenous welding, metal pouring, gas soldering and light cutting/ brazing, they're engineered for heavy-duty use.
10246716	**Material** Polycarbonate — Shade 14 IR	**Standards[1]** · ANSI/ISEA Z87.1 · CSA Z94.3	• 8″ (20.3 cm) x 17″ (43.2 cm) x .07″ (1.8 mm) • For welding, cutting and brazing applications • Thick and molded to protect against damage from impact, elevated temperatures, weld spatter and infrared (IR) radiation. • Ideal for autogenous welding, metal pouring, gas soldering and light cutting/ brazing, they're engineered for heavy-duty use.

[1]Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

V-Gard® Accessory System: Visors

V-GARD VISORS: ARC FLASH APPLICATION[2]	
Markets: Manufacturing, utilities, construction, oil/gas/ petrochemical **Applications:** Maintenance, impact and debris, testing/repair	**Standards[1]:** ANSI/ISEA Z87.1-2015; ASTM F2178-2008 (Ref: NFPA 70E, HRC 2) **Certification:** Third-party by Intertek and ArcWear **Min Order Qty:** 5

Part No.	Product Specifics		
	Impact-rated (Z87+)		
10115847	**Material** Polycarbonate — special tint, gray-blue visor; **molded**	• 9.25" (23.5 cm) x 18" (45.7 cm) x .065" (1.7 cm) •Extended length and width for greater coverage of face and neck •**Rated to 16.0 cal/cm²** when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Hard Hat (PN 475358) and V-Gard Frame (PN 10115730) *Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations*	
10118480	**Material** Polycarbonate — special tint, gray-blue visor; **molded** (for use with designated V-Gard Chin Protector)	**Arc Visor Kit**—consists of Visor (PN 10115858) + Chin Protector (PN 10115827) • 8" (20.3 cm) x 17.25" (43.8 cm) x .065" (1.7 cm) •Extended length and width for greater coverage of face and neck •**Rated to 21.0 cal/cm²** when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Hard Hat (PN 475369) and V-Gard Frame (PN 10116627) and V-Gard Standard Chin Protector (PN/10115827) *Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations*	

[1] *Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.*
[2] *Do not use V-Gard Arc Visors with V-Gard Headgear. These visors are designated for use with specified V-Gard Frames and MSA helmets ONLY. See "V-Gard Headgear" for additional details.*

V-Gard® Accessory System: V-Gard® Chin Protectors[1]

Work with select V-Gard Nitrometer Visors to provide extra protection from impact and splash hazards to face and neck.

Part No.	Product Name	Material	Product Specifics	
10115828 TRY IT!	**Retractable Chin Protector**	Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors)	• 3.82" (9.7 cm) in height, when unretracted • Unique retractable plates allow greater flexibility of head movement both up and down, as well as side-to-side • Minimum order quantity: 5	
10149029 TRY IT!	**Chin Protector**	Polycarbonate – clear (for improved visibility)	• 2.86" (7.26 cm) in height • Compact, lightweight design provides additional protection between chin and neck area • Should not be worn with tinted, arc or shaded nitrometer visors to ensure compliance with stated Standards markings/requirements • Minimum order quantity: 5	
10115827	**Standard Chin Protector**	Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors)	• 2.86" (7.26 cm) in height • Compact, lightweight design provides additional protection between chin and neck area • Minimum order quantity: 5	

V-Gard® Accessory System: Replacement Parts[2]

Part No.	Product Name	Product Specifics	
10117496	**Cap Frame Replacement Slot Adapters**	• For use with V-Gard Frames for Slotted Caps • Sold in boxes of 5 (5 packages of 1 pair)	
10225804	**Hat Frame Replacement Slot Adapters**	• For use with V-Gard Frames for Slotted Hats • Sold in boxes of 5 (5 packages of 1 pair) • Hat Frame Replacement Slot Adapter is marked with an "H" *(see inset image)*	
10116539	**Debris Control for V-Gard Frames**	• Debris control exceeds EN requirements for molten metal • All-rubber construction • Minimum order quantity: 10	
10117495	**Heavy-duty Rubber Strap**	• For V-Gard Universal Cap or Hat Frames • Minimum order quantity: 10	

[1] MSA V-Gard Chin Protectors meet the applicable safety requirements as noted on the V-Gard Nitrometer Visor when worn in conjunction with V-Gard Frames and V-Gard Nitrometer Visors.

[2] Use only genuine MSA V-Gard Accessory System replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee, or promote the use of components manufactured by other companies when used in conjunction with MSA products.

V-Gard® Accessory System: V-Gard® Headgear

V-Gard Headgear can be used for face protection when head protection is not required. V-Gard Headgear is available in two versions: General Purpose and Elevated Temperature (Extended). V-Gard Headgear are designed and approved for use with V-Gard Visors.[1]

V-GARD HEADGEAR

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining, chemical industries

Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing, laboratory

Size: Standard (6½ – 8)

Sandards[2]: ANSI/ISEA Z87.1-2015; EN 166; CSA Z94.3; and AS/NZS 1337

Certification: Third-party by Intertek, INSPEC International Ltd., CSA International and SAI Global Ltd.

Part No.	Product Name	Product Specifics	
10127061	**V-Gard Headgear — General Purpose** **Material:** High Density Polyethylene (HDE) – black	• Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose • Ratchet closure • Seven-point crown adjustment • Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool • Sweat-wicking ratchet cover keeps nape comfortable • For use ONLY with V-Gard Visors; **not for use where head protection is required** • All non-metal construction • Minumum order quantity: 10	
10127062	**V-Gard Headgear — Elevated Temperature** **Material:** Heat-resistant nylon — gray	• Extended browguard for additional coverage in high temperatures • Tested to withstand temperatures up to 400°F[3] • Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose • Ratchet closure • Seven-point crown adjustment • Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool • Sweat-wicking ratchet cover keeps nape comfortable • For use ONLY with V-Gard Visors; **not for use where head protection is required** • All non-metal construction • Minumum order quantity: 5	
10127063	**V-Gard Headgear Kit — General Purpose**	**Kit Contains:** • V-Gard General Purpose Headgear (PN 10127061) • V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)	
10127065	**V-Gard Headgear Replacement Sweatband[4]**	• Sweat-wicking material over breathable foam helps keep workers cool, dry and comfortable • Hook & loop closure makes replacement easy • Tested to the FR requirements in CSA Z94.3-07 • Sold in boxes of 25 (5 packages of 5)	

[1] **DO NOT** use V-Gard Headgear with V-Gard Arc Visors tested to ASTM F2178-2008 Test Method (ref. NFPA 70E-2012, Hazard Risk Category). These visors are designated for use with specified V-Gard Frames and MSA helmet ONLY as face protection for workers exposed to high voltage electric arcs. V-Gard Headgear has not been tested or certified to the Test Method, and should not be used for this type of Arc Flash protection.
[2] Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.
[3] Exposure to extreme heat can cause thermal discomfort. Proper precautions should be taken to prevent heat stress and other injuries.
[4] Use only genuine MSA V-Gard Headgear replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee or promote the use of components manufactured by other companies when used in conjunction with MSA products.

V-Gard® Accessory System: Kits

Part No.	Product Name	Product Specifics	
10118695	V-Gard Accessory System Kit — with V-Gard Cap-Style Hard Hat	**Kit Contains:** • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps; with debris control (PN 10115730) • V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)	
10118697	V-Gard Accessory System Kit — without V-Gard Cap-Style Hard Hat	**Kit Contains:** • V-Gard Universal Frame for Caps with debris control (PN 10115822) • V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) ▸ **Does not contain an MSA safety helmet.**	
10118694	V-Gard Forestry Kit	**Kit Contains:** • Hi-Viz orange V-Gard Cap with ratchet suspension (PN 488146) • V-Gard Frame for Slotted Caps; with debris control (PN 10115730) • V-Gard Mesh Nitrometer (PN 10116558) • V-Gard Retractable Chin Protector (PN 10115828) • left/RIGHT, HIGH (NRR 28 db) Cap-Mounted Earmuffs (PN 10087422)	
10118696[1]	V-Gard Accessory Arc Kit	**Kit Contains:** • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps (PN 10121266) • V-Gard Arc Nitrometer with V-Gard Standard Chin Protector (PN 10118480); must be assembled by user prior to wearing to secure stated calorie rating. • Rated to 11.3 cal/cm^2 when tested to ASTM F2178-2008 (ref. NFPA 70E-2012, Hazard Risk Category 2), and when worn with a V-Gard Cap (PN 475358), V-Gard Frame (PN 10121266) and V-Gard Standard Chin Protector (PN/10115827)	

[1] Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames, V-Gard Chin Protectors and MSA Helmet combinations.

Hard Hat Accessories

V-Gard® Winter Liners

V-Gard Winter Liners deliver extra warmth and protection under hard hats.

V-GARD WINTER LINERS			
Part No.	**Product Name**	**Product Specifics**	
10118417 *TRY IT!*	**V-Gard Winter Liner, Knit Cap**	• Stylish skullie cap • Design prevents liner from obstructing vision • 100% high bulk acrylic • **Sold in sets of 12**	
10118418	**V-Gard Winter Liner, Knit Hat/Cap Cover**	• 100% acrylic • Bright yellow-green for greater visibility • Full face tube mounts under or over brim of MSA caps or hats, covering ears, mouth, cheeks and neck • Extended nape and wraparound collar for tucking into coat/shirt • **Sold in sets of 12**	
10118427 *TRY IT!*	**V-Gard Supreme Liner, Flame-Resistant 2-piece** *Flame Resistant*	• Fabric tested to withstand arc exposure to an ATPV of 8 cal/cm^{2} • Water repellant • Inside neck pocket holds warming packet[2] • Multi-layered flame-resistant top cap • Extended, zipper on/off high-bulk flame-resistant knit bottom • No metal parts • **Sold in sets of 3**	

Note: Flame resistant (FR) liner is made of special fibers that allow it to self-extinguish when exposed to flame or thermal ignition. Flame resistance cannot be removed by washing. Unlike many other winter liners in the market, ALL layers of fabric in V-Gard Supreme Liner are flame-resistant, affording FR protection throughout the life of the product.[3] For this reason, only V-Gard Supreme Liner offers resistance to arc exposure.

[1] Follow all instructions and perform daily, pre-, and post-use inspections.

[2] Warming packets available at most sporting goods retailers; not sold with liners.
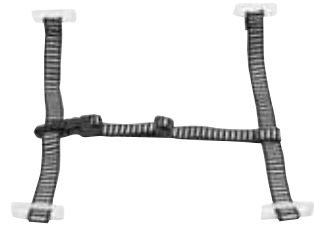
[3] Garment care instructions must be followed.

Hard Hat Accessories

UNIVERSAL 4-POINT CHINSTRAP

Part No.	Product Name	
GA90047	Universal 4-Point Chinstrap	

STANDARD CHINSTRAPS

Part No.	Product Name	Product Specifics	
10171103[1]	2-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" Nomex webbing • Attaches to shell	
10171104	2-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" polyester webbing • Attaches to shell	
10171105	2-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" cotton webbing • Attaches to shell	
10171106	2-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" cotton webbing • Attaches to suspension[2]	
10171107	2-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" polyester webbing • Attaches to suspension[2]	
10124238	4-Point Chinstrap	• Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort • ¾" polyester webbing • Attaches to suspension[2] • Pkg/10	

[1]For elevated temperatures; flame-resistant. Not recommended for use where molten metal splash hazards exist.
[2]Staz-On suspension only.

HEAD PROTECTION & PPE STORAGE & CARRY BAG

Part No.	Product Name	Product Specifics	
10228677	Drawstring Storage Bag 1-pack	• For head protection equipment and PPE storage and transport	
10228298	Drawstring Storage Bag 4-pack		

Hard Hat Accessories

Sun Shield for
V-Gard Cap-Style Hard Hat

Sun Shield for
V-Gard Full-Brim Hard Hat

Sun Shield for
V-Gard 500 Hard Hat

SUNSHADE HARD HAT ACCESSORIES

Part No.	Product Name	Product Specifics
10098032	**SunShade Hard Hat Accessory** Yellow-green, with reflective striping	• Fit most hats and caps • Breathable, bright mesh fabric • Hat clips help to keep SunShade from falling or rotating • Minumum order quantity: 5
10098031	**SunShade Hard Hat Accessory** Orange, with reflective striping	
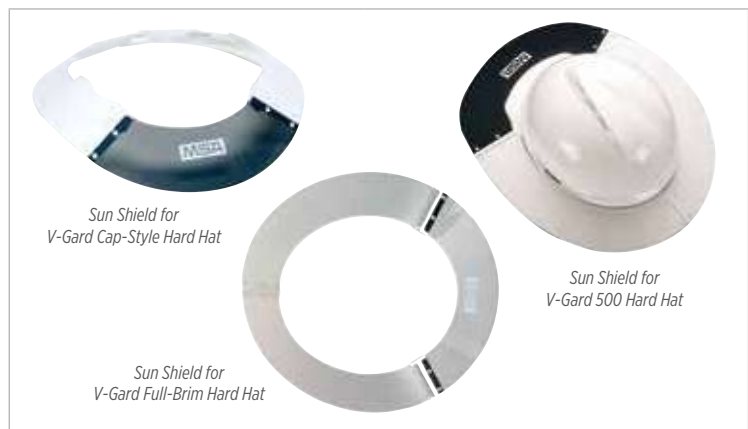
SUN SHIELDS

Part No.	Product Name	Product Specifics
697290	**Sun Shield for standard V-Gard Cap-Style Hard Hats** *only*	• Easily attaches to helmets and caps • Polyurethane brim extender protects against sun and heat • Smoke-tinted Lexan front for extra protection
697410	**Sun Shield for standard V-Gard Full-Brim Hard Hats** *only*	
10039114	**Sun Shield for standard V-Gard 500 Cap-Style Hard Hats** *only*	

HARD HAT SWEATBAND

Part No.	Product Name	Product Specifics
696688	**Terri-Band Sweatband** Gray, pkg/10	• Custom design fits all MSA suspensions • Washable, with plastic snaps
10068911	**Terri-Band Sweatband** Gray, single	

EMERGENCY MEDICAL INFO ACCESSORY

Part No.	Product Name	Product Specifics
10013393	**Emergency Medical Information Accessory**	• Provides crucial, lifesaving information in the event of a medical crisis on the job • Pkg of 10 • Trilingual: English/Spanish/French

inside view   *outside view*

EMERGENCY MEDICAL INFO ACCESSORY

Part No.	Product Name	Product Specifics
804358	**In-Service Label**	• To track shell's service life, affix label inside helmet with date of helmet's first use • MSA recommended replacement: shell every 5 years/suspension every 12 months

Industrial Hearing Protection and Communication Systems

MSA has hearing protection products for nearly every industrial application. In fact, MSA offers what customers want most: economical options, cutting-edge technology, quality and outstanding performance.

V-Gard® Helmet-Mounted Hearing Protection

Superior Performance
- Offers the highest attenuation for a cap-mounted earmuff on the market.
- Custom MSA sealing rings allow for optimal NRR performance.
- Works with slotted MSA industrial cap-style hard hats.
- Works with existing MSA visors and frames for seamless integration into your safety program.

Enhanced Comfort and Fit
- Improved sealing ring and adapters optimize pressure on the ears for all-day comfort.
- Foam-injected ear pads cushion the outer ears to allow for soft points of contact.
- Vertical adjustment allows for custom fit.
- Recessed interior foam does not touch user's ear while in use.
- When not in use, earmuffs may be stowed in "parking" position, ready for when you need them.

Modern Style
- Includes the next generation "V" design from the iconic V-Gard.
- Incorporates red, yellow, and green color-coding on the backplate and front logo to easily identify level of attenuation.
- Upgraded fork design provides a sleek look and modernized feel.
- Matte material for both cup and ear pads decreases look of wear and tear.

NRR and CSA Class Ratings for V-Gard Hearing Protection	LOW		MEDIUM		HIGH	
	NRR	CSA Class	NRR	CSA Class	NRR	CSA Class
V-GARD CAP (medium)	22	B	27	A	31	AL
V-GARD CAP (small)	23	B	28	AL	31	AL
V-GARD CAP (large)	23	B	27	AL	30	AL
THERMALGARD CAP	24	A	27	A	29	AL
SUPER-V CAP	23	B	28	AL	30	AL

NRR and CSA Class Ratings for V-Gard Hearing Protection	LOW		MEDIUM		HIGH	
	NRR	CSA Class	NRR	CSA Class	NRR	CSA Class
V-GARD 500 CAP	22	B	28	AL	31	AL
TOPGARD CAP	24	A	28	AL	30	AL
SMOOTHDOME CAP	24	A	27	AL	30	AL
V-GARD H1 HELMET	coming soon					

V-GARD CAP-MOUNTED HEARING PROTECTION

PRODUCT NAME	V-Gard	V-Gard	V-Gard
ATTENUATION LEVEL	LOW	MEDIUM	HIGH
PART NO.	10190356	10190357	10190358

PRODUCT NAME	Hygiene Kit	Hygiene Kit	Hygiene Kit
PART NO.	10193450	10193451	10193452
PRODUCT SPECIFICS	for V-Gard Cap-Mounted Hearing Protection, LOW	for V-Gard Cap-Mounted Hearing Protection, MEDIUM	for V-Gard Cap-Mounted Hearing Protection, HIGH

[1] https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation_estimation.html

SoundControl® Classic Helmet-Mounted Hearing Protection

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining
Applications: High-noise environments, industrial plants, construction sites
Standards: Meets ANSI S3.19-1974 and CSA Class A Standards
Compatible PPE:
• V-Gard Slotted and Universal Frames—no additional parts needed
• Most V-Gard Visors
• MSA hard hats, as indicated in chart below

SOUNDCONTROL CLASSIC HELMET-MOUNTED HEARING PROTECTION

PRODUCT NAME	Sound Blocker™ 26	Soprano™	SoundControl SH	Hygiene Kit
PART NO.	10022021	10034487	10129327	10003360
PRODUCT SPECIFICS	**For use with MSA non-slotted cap-style hard hats** • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C	**For use with MSA non-slotted full-brim hard hats** • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C	**For use with MSA slotted full-brim hard hats**	• Foam cushions and inserts • Works with Sound Blocker 26 and SoundControl SH hearing protection

Headbands: left/RIGHT™ Hearing Protection

Markets: General industry, manufacturing, repair and maintenance, construction, OGP, forestry, shipbuilding, mining
Applications:
- Heavy mechanical industries, compression rooms, airports (**HIGH**)
- Utilities, construction, general industry (**MEDIUM**)
- Food manufacturing, automotive, light industry (**LOW**)

Standards: Meets ANSI S3.19-1974 and CSA Class A Standards

left/RIGHT HEARING PROTECTION

PRODUCT NAME	left/RIGHT (HIGH)	left/RIGHT (MEDIUM)	left/RIGHT (LOW)
PART NO.	**TRY IT!** 10087399	**TRY IT!** 10087426	10087436
PRODUCT SPECIFICS	•For use in high-noise environments	•For use in medium-noise environments	•For use in low-noise environments

PRODUCT NAME	left/RIGHT (HIGH) Hygiene Kit	left/RIGHT (MEDIUM) Hygiene Kit	left/RIGHT (LOW) Hygiene Kit
PART NO.	10092880	10092879	10092878
PRODUCT SPECIFICS	•Cushions and inserts •Work with left/RIGHT helmet-mounted or headband products		

DID YOU HEAR?

The **attenuation of an earmuff depends on the fit** of the muff against the head and around the pinnae (i.e., the "tightness" of the seal). Gaps, including those caused by safety glasses, provide an easy path for sound to travel, reducing protection levels. To reduce this effect, try not to put anything under the cup (such as pencils, hair, etc.). But, if you must wear protective eyewear, select either those with a thin strap or a very thin temple. If the gap is noticeable, the protection level is compromised.

Headbands: SoundControl® Classic Hearing Protection

Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, mining

Applications: Confined space, sanding/grinding, power tool use, occupations with non-impulse noise, demolition, assembly

Standards: Meet ANSI S3.19-1974 and CSA Class A Standards

SOUNDCONTROL CLASSIC HEARING PROTECTION

PRODUCT NAME	SoundControl HPE	SoundControl EXC
PART NO.	10061271	10061229
NRR	26 dBA	24 dBA
PRODUCT SPECIFICS	•Lightweight, low-profile •High attenuation and excellent sealing for reliable protection •Headband design and 2-point cup mounting distributes weight evenly, offering outstanding balance and comfort •No metal parts • Cups can be moved to various wearing positions for custom fit	•Unique injection-molded inserts provide excellent attenuation and maximum ear space •Medium attenuation for moderate high noise exposures •3 distinct wearing positions • Cups can be moved to a range of wearing positions for custom fit

PRODUCT NAME	HPE Hygiene Kit
PART NO.	10061291
PRODUCT SPECIFICS	•Foam cushions and inserts

PRODUCT NAME	EXC Hygiene Kit
PART NO.	10061292
PRODUCT SPECIFICS	•Foam cushions and inserts

Economuff™ Earmuff Value Hearing Protection

Economuff Earmuff hearing protectors provide cost-effective options that don't sacrifice comfort or protection.

Markets: Repair and operation (MRO), mining, food and beverage manufacturing, metal fabrication, oil and gas, general manufacturing

Applications: Facility maintenance, grinding, machine operations, sanding, welding, demolition, painting, assembly, cleaning

Standards: Meet ANSI S3.19-1974 and CSA Class B Standards

Compatible PPE: MSA helmets[1]

ECONOMUFF HEARING PROTECTION

PRODUCT NAME	Economuff Multi-Position	Economuff
PART NO.	10061273	10004291
NRR	23 dBA (under chin/behind head) 24 dBA (over the head)	20 dBA
PRODUCT SPECIFICS	•Offers 3 positions: under the chin, behind the head or over the head •Under the chin or behind the head positions allow use of head protection •Durable design for use in tough environments •No metal parts •Padded headband makes longer wear possible •1 size fits most	•Soft wide cushions maintain comfortable pressure around ears •Lightweight •1 size fits most •No metal parts • Most economical option

[1]Economuff Earmuff multi-position worn in behind-the-head or under-the-chin positions only.

Sightgard® Safety Glasses

Material: Polycarbonate
Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International
Minimum Order Qty: 12

Indoor

Markets: Facility maintenance, repair and operations, construction, food and beverage, general manufacturing and industry, mining, oil and gas, pharmaceuticals, transportation, shipbuilding, automotive

Applications: Assembly and mechanical, drilling, grinding, machining, painting, sanding, sawing

INDOOR	
MODEL	
Arctic	
PART NO.	
697514	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff™ Anti- Scratch Coating	• Clear lens • Frameless and lightweight • Among our most popular models • Full side coverage

INDOOR	
MODEL	
Discovery II	
PART NO.	
10106382	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+)	• Clear lens • Flexible, nylon temple arms adjust to head width • Soft nose bridge • Extra-lightweight

INDOOR	
MODEL	
Luxor	
PART NO.	
697516	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Clear lens • Single wrap-style lens • Horizontal temple adjustment

INDOOR	
MODEL	
Sierra	
PART NO.	
697550	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Clear lens • Classic full-coverage look • Adjustable temples • Integral side protection • Full side coverage

INDOOR	
MODEL	
Vista	
PART NO.	
10070914	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Clear lens • Frameless and lightweight • Among our most popular models • Full side coverage

Indoor/Humid Conditions

Markets: Facility maintenance, repair and operations, construction, food and beverage, general manufacturing and industry, mining, oil and gas, pharmaceuticals, transportation, shipbuilding, automotive

Applications: Assembly and mechanical, drilling, grinding, machining, painting, sanding, sawing

INDOOR/HUMID	
MODEL	
Arctic Elite	
PART NO.	
10038845	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating • Anti-fog coating	• Clear lens • Rubber tipped temples and nosebridge for comfortable, yet secure fit

INDOOR/HUMID	
MODEL	
Aurora	
PART NO.	
10026005	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating • Anti-fog coating	• Clear lens • Ratchet temple adjustment • Single, 7-base wrap curve lens

INDOOR/HUMID	
MODEL	
Pyrenees	
PART NO.	
10033718	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-fog coating	• Clear lens • Full side protection • Dual injected, soft-tipped temples

[1] CSA International certified models are denoted with a (SP) symbol .

Sightgard® Safety Glasses

Material: Polycarbonate
Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International
Minimum Order Qty: 12

Indoor/Humid

INDOOR/HUMID	
MODEL	
Voyager	
PART NO.	
10065849	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-fog coating	• Clear lens • Single wrap-style lens

Indoor/Outdoor

Markets: General industry, manufacturing, construction, oil and gas, forestry, shipbuilding, automotive, food and beverage, mining, pharmaceuticals, primary metals, transportation
Applications: Assembly and mechanical, chipping, chiseling, cleaning, drilling, grinding, machining, masonry, riveting, sanding, sawing, UV protection

INDOOR/OUTDOOR	
MODEL	
Arctic	
PART NO.	
10008179	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-scratch coating • Anti-fog coating • Maximum UV protection (U6)	• Blue mirror reduces glare without causing color degradation • Popular, lightweight model • Full side coverage

INDOOR/OUTDOOR	
MODEL	
Arctic Elite	
PART NO.	
10059671	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-fog coating • Maximum UV protection (U6)	• Indoor/outdoor mirror allows workers to go from bright to low light conditions • Rubber tipped temples and nosebridge for comfortable, yet secure fit

INDOOR/OUTDOOR	
MODEL	
Vista	
PART NO.	
10070916 TRY IT!	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating • Maximum UV protection (U6)	• Indoor/outdoor mirror allows workers to go from bright to low light conditions • Vertical temple adjustment • Lightweight, single lens

Outdoor

Markets: Aviation, general manufacturing, mining, oil and gas, pharmaceuticals, primary metals, transportation
Applications: Assembly and mechanical, chipping, chiseling, drilling, grinding, machining, sanding, sawing

OUTDOOR	
MODEL	
Arctic	
PART NO.	
697515 TRY IT!	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-scratch coating	• Gray tint lens • Temples flex for a custom fit • Full side coverage

OUTDOOR	
MODEL	
Arctic Elite	
PART NO.	
10038846 TRY IT!	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Anti-fog coating	• Gray tint lens • Rubber tipped temples and nosebridge for comfortable, yet secure fit

OUTDOOR	
MODEL	
Easy Flex	
PART NO.	
10070918 TRY IT!	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Gray tint lens • Temples flex for a custom fit

OUTDOOR	
MODEL	
Luxor	
PART NO.	
697517	
SAFETY FEATURES	**STYLING**
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Gray tint lens • Horizontal temple adjustment • Wrap-style single lens

¹ CSA International certified models are denoted with a ⓒⓢⓐ symbol.

Sightgard® Safety Glasses

Material: Polycarbonate
Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International
Minimum Order Qty: 12

OUTDOOR	
MODEL	
Pyrenees *TRY IT!*	
PART NO.	
10033719	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Anti-fog coating	• Gray tint lens • Full side protection • Dual-injected soft-tipped temples • Single wrap-style lens • Full side coverage

Outdoor with UV Exposure

Markets: General industry, manufacturing, construction, oil and gas, forestry, shipbuilding
Applications: Chipping, splash, chiseling, drilling, grinding, machining, power fastening, sanding, sawing

OUTDOOR/UV	
MODEL	
Feather Fit	
PART NO.	
10106384 *TRY IT!*	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Maximum UV protection (U6)	• Gray tint lens • Comfortable rubber flange nosepiece • Rubber temple grips help glasses stay put under hot working conditions • Full side coverage

OUTDOOR/UV	
MODEL	
Voyager	
PART NO.	
10065850	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Anti-scratch coating • Maximum UV protection (U6)	• Gray tint lens • Single lens

▶ **DID YOU KNOW?**

A common misconception is that all polycarbonate blocks UV. This is not the case. Under ANSI/ISEA Z87.1-2015 there is a required marking if the manufacturer claims protection from UV. Look for eyewear that both meets ANSI/ISEA Z87.1-2015 and has a **U mark**.

Over-the-Glasses

Markets: Facility safety, maintenance, repair and operations, overhaul, general industry, manufacturing, construction, oil and gas, metalworking, automotive
Applications: Assembly and mechanical, drilling, grinding, machining, masonry, power fastening, riveting, sanding, sawing

OVER-THE-GLASSES	
MODEL	
OvrG™ II	
PART NO.	
10118475 *TRY IT!*	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Maximum UV protection (U6)	• Clear lens • For use over small-to-medium Rx glasses • Squared-off, stylish look • 30% lighter weight than standard visitor specs

OVER-THE-GLASSES	
MODEL	
OvrG II	
PART NO.	
10118476 *TRY IT!*	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Maximum UV protection (U6)	• Indoor/outdoor mirrored lens • For use over small-to-medium Rx glasses

OVER-THE-GLASSES	
MODEL	
Rx Overglasses	
PART NO.	
10118476 *TRY IT!*	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Anti-fog coating	• Clear lenses • Fits over most Rx glasses • Horizontal and vertical temple adjustment

OVER-THE-GLASSES	
MODEL	
Plant Visitor	
PART NO.	
10027944 (ea) 697500 (10/box) 10008174 (144/box)	
SAFETY FEATURES	STYLING
• Impact-rated (Z87+)	• Clear lens • Classic look fits over most Rx glasses • Integral, vented side shields

[1] CSA International certified models are denoted with a ⓈⓅ symbol .

Sightgard® Safety Glasses

Material: Polycarbonate
Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International
Minimum Order Qty: 12

Low Light

Markets: Transportation, inspection and repair, assembly, general industry, indoor construction, shipbuilding, automotive, food and beverage, pharmaceuticals
Applications: Assembly, chipping, chiseling, drilling, grinding, machining, pouring/casting, power fastening, riveting, sanding, sawing

LOW LIGHT	
MODEL	
Easy Flex	
PART NO.	
10070919	

SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Tuff Stuff Anti- Scratch Coating	• Amber lens increases contrast in low light • Temples flex for a custom fit • Full side coverage

LOW LIGHT	
MODEL	
Pyrenees	
PART NO.	
10033740	

SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Anti-fog coating	• Amber lens increases contrast in low light • Full side protection • Dual-injected soft-tipped temples

Magnifiers

Markets: Facility safety, maintenance, repair and operations, overhaul, general industry, manufacturing, construction, metalworking, automotive
Applications: Fine assembly and detail work, drilling, grinding, machining, soldering, riveting, sanding

MAGNIFIERS	
MODEL	
Pyrenees MAG	
PART NO.	
10068832 1.5 bifocal magnification	
10065847 2.0 bifocal magnification	

SAFETY FEATURES	STYLING
• Impact-rated (Z87+) • Anti-fog coating	• Clear lenses • Full side protection • Dual-injected soft-tipped temples

Welding

Markets: General industry, manufacturing, construction, oil and gas, forestry, shipbuilding, metalworking; automotive, aviation
Applications: Welding, chiseling, drilling, grinding, machining, masonry, pouring/casting, power fastening, riveting, sanding, sawing

WELDING	
MODEL	
Clearvue® IR	
PART NO.	
10012847	

SAFETY FEATURES	STYLING
• Impact-rated (Z87+)	• Classic look with Infrared (IR) radiation eye protection, up to Shade 5 • Fits over most Rx glasses • Integral, vented side shields

[1] CSA International certified models are denoted with a ⓒSⓐ symbol .

Sightgard® Safety Goggles

SIGHTGARD SAFETY GOGGLES SELECTION GUIDE

STYLE	CONDITIONS		
	General purpose: impact/splash	Industrial: impact/splash	Industrial: chemical/splash
SIGHTGARD NV	■		
SIGHTGARD iV	■		
CLEARVUE® 200	■	■	
FLEXICHEM™ IV	■	■	■
VAULT™	■	■	
VERTOGGLE™	■	■	

Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3   **Certification:** Third-party by ICS and CSA International

SAFETY GOGGLES	
MODEL	
Sightgard NV	
PART NO.	
10106268	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating • Tuff Stuff Anti-Scratch Coating	• Non-vented for tighter seal • Minimum order quantity: 12

SAFETY GOGGLES	
MODEL	
Sightgard iV	
PART NO.	
10106270	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating • Tuff Stuff Anti-Scratch Coating	• Indirect-venting helps keep goggles fog-free • Minimum order quantity: 12

[1] CSA International certified models are denoted with a ⓈⒶ symbol .

⚠ WARNING: The products listed below can expose you to chemicals including Di(2-ethylhexyl)phthalate (DEHP) which is known to the State of California to cause cancer or reproductive harm. For more information, visit www.P65Warnings.ca.gov.

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10106281	Safety Goggles, FlexiChem iV, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive

Sightgard® Safety Goggles

Standards[1]: ANSI/ISEA Z87.1-2015 and CSA Z94.3 **Certification:** Third-party by ICS and CSA International

SAFETY GOGGLES	
MODEL	
Clearvue 200	
PART NO.	
10029693	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating	• Clear acetate lens resists warping, cracking and crazing from chemical splash • Flame-retardant strap • Soft, pliable goggle body ensures all-day comfort • Indirect vent helps eliminate fogging while retaining splash resistance • Minimum order quantity: 6

SAFETY GOGGLES	
MODEL	
FlexiChem iV	
PART NO.	
10106281	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating	• Clear acetate lens resists warping, cracking and crazing from chemical splash • Flame-retardant strap • Soft, pliable goggle body ensures all-day comfort • Indirect vent helps eliminate fogging while retaining splash resistance • Minimum order quantity: 6

SAFETY GOGGLES	
MODEL	
Vault	
PART NO.	
10106282	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating	• Modern styling • Comfortable, thick strap • Minimum order quantity: 6

SAFETY GOGGLES	
MODEL	
Sightgard Vertoggle™ Safety Goggles/ Faceshield Combination	
PART NO.	
10150069	

SAFETY FEATURES	PRODUCT SPECIFICS
• Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating anti-scratch coating on goggle lens	• Clear polycarbonate lens • Frosted polycarbonate faceshield • Soft, pliable goggle body helps ensure all-day comfort • Unique, articulated lift-front retains the shield on the goggle in any of five positions • Indirect venting on goggle and faceshield improve airflow while providing splash and high impact protection • Entire assembly tested at ANSI/ISEA Z87.1-2010 faceshield impact speed (300 ft/sec) • Fully adjustable FR-tested (CSA Z94.3 test methodology) elastic strap prevents hair pulling • Disposable respirators can be worn under shield • Designed to work with MSA goggle retainers • Minimum order quantity: 5

[1] CSA International certified models are denoted with a CSA symbol.

⚠ WARNING: The products listed below can expose you to chemicals including Di(2-ethylhexyl)phthalate (DEHP) which is known to the State of California to cause cancer or reproductive harm. For more information, visit www.P65Warnings.ca.gov.

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10106268	Safety Goggles, Sightgard NV, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive
10106270	Safety Goggles, Sightgard iV, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive
10029693	Safety Goggles, Clearvue 200, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive
10150069	Safety Goggle and Faceshield Combination, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive

Eyewear and Goggle Accessories

ACCESSORIES			
Part No.	**Product Name**	**Product Specifics**	
459458 for caps (TRY IT!) **449895** for hats (TRY IT!)	**Goggle Retainer**	• Sturdy neoprene-rubber accessory • Can be used with any protective cap or hat • Retains goggle on headwear when not in use • Holds goggle securely when worn for eye protection. **MSA goggle retainers are manufactured for use ONLY with MSA goggles in order to comply with the applicable standards of the products in the assembly.**	
10020871	**Deluxe Eyewear Lanyard**	• Holds eyewear securely • Lanyard strap slides over temple • Pkg of 12	
13016	**Fogpruf™ Cleaner Refill**	• 4 Oz. bottle	
10022087	**Towelettes**	• Pre-moistened • Box of 100	

Great Reasons to Choose MSA Cairns® Fire & Rescue Helmets

We've proudly manufactured fire helmets since 1836. And to this day for head protection, more first responders trust MSA Cairns Fire Helmets than any other. Here are just a few reasons why:

❶ Shell Release System (SRS)

The MSA Cairns Shell Release System (SRS), offered in our most popular fire helmets, protects from impact and heat—even when your helmet is dislodged from your head.

With the SRS, if your helmet falls off due to a fall through a floor or roof, the impact cap separates from the helmet shell, but remains on your head, leaving your head better protected from additional impact, projectiles and heat. Without SRS, all you've got is a hood.

❷ Retractable MSA Cairns Defender® Visor

North America's first (and still best) NFPA 1971 and ANSI/ISEA Z87.1 impact-rated, integral visor. The Defender Visor was designed with firefighters in mind. Entire visor stows when not in use, and can be deployed the instant it's needed—even with a gloved hand. Visor replacement does not require special tools or helmet disassembly. These benefits make the Defender Visor the best-selling firefighting eye protection on the market.

❸ Best In Class

In a survey of firefighters across the nation[1], the majority listed MSA Cairns Helmets brand as best in class.[1] When you consider the combined effectiveness of our SRS, crumple-zone front holder, impact cap, and suspension—our fire helmets offer the most complete package available.

❹ With MSA Cairns Helmets, You Get More than You Pay For: 10-Year Warranty

We know, as do firefighters, that MSA Cairns Helmets are the most durable offered. We back up that claim with a 10-year lifetime warranty that the product will be be free from defects in materials and/or faulty workmanship[2]. When you factor in quality, ease of maintenance and unique safety features found in ONLY MSA Cairns Helmets, it's easy to see why firefighters are loyal to the MSA Cairns Helmets brand.

❺ Same Day Shipping on Our Most Popular Items

When you can't afford to wait another day, MSA offers our most popular Cairns Helmets products in our Stock-Order-Ship (SOS) program. For these products, if your order is entered by 2:30 PM (EST), the product ships the same day from our warehouse in Pittsburgh, PA. Look for the SOS symbol (SOS) beside products in the program. Remember, too, you can always order customized Cairns Fire Helmets through Assemble-to-Order (ATO). ATO forms are located on every fire helmet page on www.MSAsafety.com

For complete information about Cairns Fire and Rescue Helmets, see Bulletin 3600-01-MC.

[1] *Fire helmet brand assessment study conducted by outside research firm for MSA.*
[2] *10-year warranty applies to MSA Cairns Helmets manufactured on or after January 1, 2015. For MSA Cairns Fire Helmet warranty details, please see www.MSAsafety.com.*

Cairns® XF1 Fire Helmet

The design of the National Fire Protection Association (NFPA) 1971- and 1951-compliant Cairns XF1 capitalizes on the expertise of firefighters who wear jet-style fire helmets, while blending in the needs of the North American firefighter.[1]

Cairns XF1

REDUCED SNAGS

The Cairns XF1 has been engineered as much for comfort and fit as safety. The most obvious feature is what it lacks—the XF1 is brimless. While untraditional, the lack of a brim makes it easier to crawl into tight spaces and retain your helmet.

PERSONALIZED FIT

Several easy-to-find adjustments can be made enabling the fire helmet fit to be customized to the individual. When it's all said and done, the XF1 doesn't just fit firefighters—it fits most of them comfortably.[2]

LIGHTING THE WAY

This compact light accessory is housed inside the helmet, reducing exposure to heat, flames, and impact. The strategic placement of LED lights on either side of the helmet improves visibility in dark conditions without detracting from others' vision.

EASY TO CLEAN

The Cairns XF1's modular design allows it to be quickly disassembled for thorough inspection, care and maintenance. Plus, the helmet's soft goods are removable, washable and replaceable—all without the use of tools.

INTEGRATED VISOR

The optional integrated visor provides additional eye protection that is easy to deploy, clean, and replace. The internally-mounted communication headset snaps easily inside the helmet, providing incoming communication right to the ear, where it's needed most.

CUSTOMIZED LOOK

The Cairns XF1 is available in four colors (black, white, yellow, and red), and two finishes (matte and glossy), so firefighters can choose a look that fits their style. Customized front plates in a variety of colors and custom printing are also available.

MSA offers a variety of integrated accessories designed to maximize available headroom while minimizing snag hazards.
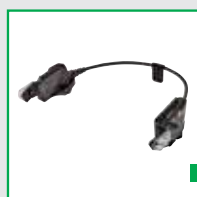
LIGHT MODULE

COMMUNICATION HEADSET

CUSTOMIZED FRONT PLATE

INTEGRATED VISOR

[1] *Accessories are not certified to NFPA; however, their addition to the helmet does not affect NFPA compliance.*
[2] *This information based on Beta trial of 250 participants with various facepieces, including competitor SCBA.*

For complete information about Cairns XF1 Fire Helmets, see Bulletin 3600-97-MC.

MSA Cairns Fire and Rescue Helmets

Cairns® XR2 Technical Rescue Helmet

MULTI-PURPOSE
Engineered helmet platform designed for technical rescue, wildland firefighting, climbing, and water rescue operations.

USER-FOCUSED DESIGN
All integrated and modular accessories are designed for easy attachment. "Glove-friendly" design of all accessories and helmet adjustment points for both right- and left-handed users.

EASY CLEANABILITY
Easy to remove one-piece textile soft-goods to support health and safety initiatives (see Cleaning Guidelines for details).

FULL MODULARITY
Modular platform with a range of easily attachable accessories: responder goggles, face protection, and hearing protection with integrated communication system.

MEETS MULTIPLE STANDARDS
Designed and tested to meet the latest NFPA and EN Standards for Technical Rescue, Wildland Firefighting (EN only), and Water Rescue.

CUSTOMIZABLE OPTIONS
Printing available for front plates to add custom logo or other designs. Multiple reflective trim and decal choices with custom printing options.

ACCESSORY INTEGRATION
Accessories designed for full integration: dual beam headlamp with tail light (Buddy light), adjustable internal visor, and water rescue ear protection.

UNMATCHED COMFORT
Compact design, lightweight materials, ride height adjustments, and integrated modular accessories all contribute to optimized weight distribution. Optional dual ventilation shell pattern on top and sides provides additional comfort. Innovative one-piece padding in soft goods to help reduce pressure points.

front

back

INTEGRATED DUAL-BEAM HEADLAMP

INTERNAL VISOR ASSEMBLY

WATER RESCUE EAR PANELS

RESPONDER GOGGLES

INTEGRATED HEARING PROTECTION WITH OPTIONAL COMMUNICATION SYSTEMS

For complete information about Cairns XR2 Technical Rescue Helmets, see Bulletin 3600-148-MC.

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
CH503788	MSA Cairns XR2 Technical Rescue Helmet Chin Strap	Antimony trioxide	Cancer

1836 Helmets

1836 Helmet *(shown with no eye protction)*	**1836 Helmet** *(shown with NFPA Bourkes)*

FOR STRUCTURAL AND PROXIMITY FIREFIGHTING

, • New-to-market Traditional Fire Helmet
, • Painted high-luster finish
, • Unpainted matte finish
, • Made in the USA (Berry Compliant)
Certified to NFPA 1971
, • Structural
, • Hat sizes: 5⅝ to 8⅜

NEW!

FEATURES	BENEFITS
Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
Impact/Thermal Cap	Helps provide increased thermal, acceleration, attenuation, and impact protection
Shell Release System	Retain your impact cap and earlaps if your helmet shell is torn away during a fall or structural collapse
NFPA-compliant Bourke Eye Shield	Fireground-proven, anti-scratch coated, polyarylate lenses are quickly stowable when not in use; easily deployed when needed
Defender Visor Retractable Eye Protection	Deploys easily when you need it, stores securely inside your helmet shell when you don't
Crumple-zone Front Holder	Absorbs impact forces to help protect your head, neck and spine from injury
Pivoting Nape/Ratchet	Up to 18 different height adjustment configurations, including new 0.5" lower ride height option, permits customization for a variety of head sizes/shapes and increases comfort
Adjustable Headband Height	Ensures perfect fit between your helmet and SCBA mask
Embossed Helmet Brim	Oak vine pattern ties helmet to 180+ years of MSA Cairns helmet design tradition (and includes a hidden gem)
D-ring Helmet Hanger	Fits on large hooks and resists bending
Removable/Washable Nomex Chinstrap	Easily remove chinstrap for cleaning or inspection

1836 Cairns® Helmets Ordering Information

All of the items listed below are stocked on the SOS (SOS) program. You can also order customized Cairns Fire Helmets through Assemble-to-Order (ATO). ATO forms are on every fire helmet page on MSASafety.com.

Model	Part No.	Color	Eye Protection	Cushion Liner	Earlaps	Front Holder	Chinstrap	Trim Type	Trim Color
CAIRNS 1836	10247314	Black	Defender Clear	Standard	Yellow Nomex	6" Silkscreened Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247315	Black	Defender Clear	Standard	Black Nomex	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247316	Black	Defender Clear	Leather	PBI/Kevlar	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247317	Black	Defender Amber	Standard	Black Nomex	6" Silkscreened Maltese Cross	2-pt Standard	Reflexite	Lime Yellow
	10247318	Black	NFPA Bourkes	Standard	Black Nomex	6" Silkscreened Maltese Cross	2-pt Standard	Reflexite	Lime Yellow
	10247319	Black	NFPA Bourkes	Standard	Black Nomex	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247320	Black	Defender Clear	Standard	Yellow Nomex	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247331	Black	Defender Clear	Standard	Black Nomex	6" Carved Eagle	2-pt Standard	Scotchlite	Lime Yellow
	10247332	Yellow	Defender Clear	Standard	Yellow Nomex	6" Silkscreened Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247333	Yellow	Defender Clear	Standard	Black Nomex	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247334	Red	Defender Clear	Standard	Black Nomex	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247335	Red	Defender Clear	Standard	Yellow Nomex	6" Silkscreened Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247336	White	Defender Clear	Standard	Yellow Nomex	6" Silkscreened Eagle	2-pt Standard	Reflexite	Lime Yellow
	10247337	White	Defender Clear	Leather	PBI/Kevlar	6" Carved Eagle	2-pt Standard	Reflexite	Lime Yellow

* Through color is present on black, red, white, and yellow. All others are painted over white shell.

660C Metro® & Invader® 664 Helmets

660C Metro Helmet
(shown with Defender Visor)

Invader 664 Helmet
(shown with Defender Visor)

FEATURES	BENEFITS
Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
Impact Cap	Provides superior thermal and impact protection
Shell Release System	Retain your impact cap and earlaps if your helmet shell is torn away during a fall or structural collapse
Defender Visor Retractable Eye Protection	Deploys easily when you need it, stores securely inside your helmet shell when you don't
Adjustable Ratchet Height	Allows for comfortable, secure fit due to three ratchet height positions
Adjustable Headband Height	Ensures perfect fit between your helmet and SCBA mask
D-ring Helmet Hanger	Fits on large hooks and resists bending
Nomex Chinstrap	Enhances safety, performance and fit due to Quick-Release buckles, Postman's Slide and Velcro stowage system.

FOR STRUCTURAL AND PROXIMITY FIREFIGHTING

Most popular modern Cairns Helmet models:
- Sleek, low-profile design:
  - 660C Helmet: painted high-luster finish
  - 664 Helmet: unpainted matte finish

Certified to NFPA 1971
- Certified for proximity firefighting (with bonnet, shroud and gold-coated faceshield)
- Hat sizes: 6⅜ to 8⅜

Cairns® Modern Helmets Ordering Information

All of the items listed below are stocked on the SOS (SOS) program. You can also order customized Cairns Fire Helmets through Assemble-to-Order (ATO). ATO forms are on every fire helmet page on MSASafety.com.

Model	Part No.	Color	Features
660C METRO	**660DSR**	Red	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	660DSY	Yellow	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	660FSY	Yellow	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	660FSB	Black	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
INVADER 664	**664FSY**	Yellow	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	664FSB	Black	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim

* Through color is present on black, red, white, and yellow. All others are painted over white shell.

![MSA The Safety Company]

1010 & 1044 Helmets

1010 Helmet	1044 Helmet
(shown with NFPA Bourkes)	*(shown with Defender Visor)*

FOR STRUCTURAL AND PROXIMITY FIREFIGHTING

Most popular Cairns Helmet models:
- 1010: painted high-luster finish
- 1044: unpainted matte finish

Certified to NFPA 1971
, • Certified for proximity firefighting (with bonnet, shroud and gold-coated faceshield)

FEATURES	BENEFITS
Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
Impact Cap	Provides superior protection and expanded hat size range
Shell Release System	Retain your impact cap and earlaps if your helmet shell is torn away during a fall or structural collapse
NFPA-compliant Bourke Eye Shield	Fireground-proven, anti-scratch coated, polyarylate lenses are quickly stowable when not in use; easily deployed when needed
Defender Visor Retractable Eye Protection	Deploys easily when you need it, stores securely inside your helmet shell when you don't
Crumple-zone Front Holder	Absorbs impact forces to help protect your head, neck and spine from injury
Adjustable Ratchet Height	Allows for comfortable, secure fit due to three ratchet height positions
Adjustable Headband Height	Ensures perfect fit between your helmet and SCBA mask
Embossed Helmet Brim	Oak vine pattern ties helmet to more than 180 years of Cairns Helmet design tradition
D-ring Helmet Hanger	Fits on large hooks and resists bending
Nomex Chinstrap	Enhances safety, performance and fit due to Quick-Release buckles, Postman's Slide and Velcro stowage system. Also available in four-point option (1010/1044 Helmets only).

Fire Helmet Fronts

Design your own MSA Cairns Fire Helmet Front at http://webapps.msanet.com/fronts, and call 1-877-MSA-FIRE to order! Or, use an order form: Bulletin ID 3600-85-MC, available at MSAFire.com. Return the completed form(s) to fireorder@MSASafety.com.

- Reinforced with high-temperature, shrink-resistant backing
- Sewn with high-temperature, fire-retardant Nomex thread
- Configure your own front piece at http://webapps.msanet.com/fronts. Part of a tested/compliant configuration according to NFPA 1971.
- For MSA Cairns standard front or passport front order forms, see Bulletin ID 3600-85-MC available at MSAFire.com

* Through color is present on black, red, white, and yellow. All others are painted over white shell.

Select Replacement Parts

Part No.	Description	Cairns 1010 & 1044 Helmets	660C Metro & Invader 664 Helmets
DEFENDER VISOR			
10077117	Clear lens	■	■
10077118	Amber Tuffshield lens	■	■
BOURKE'S LENSES			
10186311	NFPA-compliant Bourke's lens and hardware kit*	■	
10189241	Hole plug kit (10 helmets)**	■	
SOFT GOODS KITS			
10160548	**Soft Goods Kit:** Standard liner, yellow Nomex ear lap, Velcro tabs, mesh laundering bag		■
10160549	**Soft Goods Kit:** Standard liner, black Nomex ear lap, Velcro tabs, mesh laundering bag		■
10172739	**Soft Goods Kit:** Standard liner, yellow Nomex ear lap, Velcro tabs, mesh laundering bag	■	
10172740	**Soft Goods Kit:** Standard liner, black Nomex ear lap, Velcro tabs, mesh laundering bag	■	
EARLAPS			
I655XP	Yellow Nomex earlap	■	■
I655AP	Yellow Nomex earlap w/under-chin extension	■	■
I655GP	Black Nomex earlap	■	■
10124742	Black Nomex earlap w/under-chin extension	■	■
I955P	PBI/Kevlar earlap	■	■
I955AP	PBI/Kevlar earlap w/under-chin extension	■	■

Addition of an NFPA-compliant Bourke's lens does not affect the compliance as indicated on the original fire helmet ensemble as shipped from MSA.

** To cover holes created by faceshield hardware when an MSA faceshield is replaced by an NFPA-compliant Bourke.

125

ATHLETIC FOOTWEAR
FOR FIREFIGHTERS.

With a unique cushioned and contoured sole and athletic footwear construction, Globe® boots are flexible like your feet, grip like no other, and feel broken in right out of the box.

Globe Boots

- •, Scientific studies have proven that lighter weight and more flexible footwear isn't just about comfort — it's about safety.

- •, HEELPORT™ Internal Fit System holds your heel securely so it won't slip while cushioning your ankle.

- •, VIBRAM® Contoured Cup Outsole wraps onto the leather upper for athletic shoe performance.

- •, Slip-Resistant Tread pattern designed for superior performance in all terrains and when working on ladders.

- •, Composite safety toe cap, puncture protection, and shank are lighter and far more flexible than steel and don't transmit heat or cold.

- •, Optional VIBRAM® ARCTIC GRIP PRO outsoles are available for even better slip resistance on wet ice.

Get the full story on Globe Boots at MSAfire.com/Globe

GLOBE®

Fall Protection

Engineered Systems
Confined Space Equipment
Personal Protective Equipment
MSA Safety Training

Fall Protection

OUR COMMITMENT TO YOU...
The MSA Fall Protection Promise

MSA promises to replace any MSA harness and/or textile lanyard FREE of charge if a user falls while properly using our product. If the fall occurs while using an MSA mechanical device, we will replace or re-certify the device FREE of charge. MSA believes that it is important to provide high quality products and recognize safe work practices.

Products should be returned with a signed copy of the accident report to:

MSA
Attn: Fall Protection Product Line Manager
1100 Cranberry Woods Drive
Cranberry Township, PA 16066-5204

![MSA The Safety Company]

Global Leaders in Fall Protection

Because we provide customized fall protection solutions all around the world with our range of Latchways® systems, MSA has a thorough understanding of any given country's safety concerns and needs. We have wide-ranging support, too, as our product leadership is backed by a worldwide network of highly trained registered installers and contractor companies.

And MSA is always thinking ahead—monitoring legislative developments around the world so that we can respond quickly with products and services designed to comply with new regulations without sacrificing productivity.

Simply put: MSA is fluent in the global language of fall protection.

No wonder our trusted systems and award-winning components can be found on structures as far away as Sydney's Harbour Bridge and as close by as Milwaukee's Miller Park Stadium.

Premium fall protection solutions tailored to your project needs

MSA is comprehensive in its care and concern for those working at height. Our versatile fall protection systems— from roof to tower—offer solutions for nearly every work environment. Our experience working with so many different industries, from aerospace to tourism, means we have thorough knowledge of the particular fall protection needs specific to a variety of applications.

So tell us what you're looking for. With our Latchways range of smartly engineered systems and best-quality products, you're in the hands of experts.

Commercial and Public Buildings

Imagine providing safe access without damaging roof integrity. Latchways horizontal and inclined systems, with their Constant Force® Posts, do just that. We created systems like WalkSafe® to help further reduce wear and tear and LadderLatch™ to keep workers safe as they climb new heights.

Transmission Towers, Distribution and Telecommunications

From towers to masts to monopoles, Latchways vertical systems can be seen protecting workers on transmission towers and distribution and telecommunication structures all over the world— even those in the most icy, rainy conditions.

Bridges and Infrastructure

Each bridge and infrastructure project has different fall protection requirements. Latchways inclined, horizontal and vertical systems deliver unprecedented versatility, making it safe for workers to maintain cables, traverse bridge undersides, or safely access towers—no matter how harsh the conditions.

Industrial Manufacturing

From overhead systems for above machinery operation to permanently installed lifelines, to temporary SRLs for one-off maintenance jobs, Latchways brings safety solutions to virtually any industrial manufacturing project. Our systems can link together horizontally, vertically and up inclines, and can be retrofitted or included as part of a new build.

Oil and Gas

Our range of user-friendly safety solutions, from Latchways Self-Retracting Lifelines to Latchways Personal Rescue Device®, meet the demands of the oil and gas industry—and then some. With vertical, horizontal and inclined cable systems designed to follow complex contours found on rigs, pipe racks, gantries and more, we bring fall protection to the most severe environments.

Wind Energy

From wind farm owners to maintenance contractors to global turbine manufact-urers, wind energy professionals rely on innovations like our Latchways Sealed Self-Retracting Lifeline for safety and our TowerLatch™ unit for uninterrupted ladder ascension.

Fall Protection: Engineered Systems

Road and Rail

With time- and cost-saving options like Latchways Personal Rescue Device, Self-Retracting Lifeline and overhead cable systems, MSA keeps road and rail workers safe. Whether refurbishing stations, locomotives and loading trucks, or testing signals, you're on the right track with MSA.

Stadiums and Tourism

The inherent flexibility of MSA horizontal, vertical and incline systems means fall protection is available to virtually any structure—from sports arenas like the Manchester Stadium to tourist attractions like the Orlando Eye.

Aerospace

Working with aircraft engineers, MSA developed the easy-to-use Latchways WinGrip® system (for aircraft) to protect aerospace workers at height, without sacrificing productivity or quality. Among its many remarkable features, a WinGrip lifeline can span the length of any aircraft wing, allowing up to four workers access to all areas without ever disconnecting from the WinGrip lifeline. With the WinGrip AIO, flightline and hangar tasks become more efficient. Compact and lightweight, this self-contained vacuum anchor requires little setup or removal time. In addition, it's powered by a shop air supply or refillable gas cylinder that provides a minimum of six hours of stationary use. This is advanced technology at its best, able to perform in extreme hot or cold temperatures.

Elevating the Science of Fall Protection

Better science means better protection—it's that simple, really.

No wonder MSA has been putting its resources, energy and smarts into the most cutting-edge technologies and most inspired breakthroughs with the Latchways range of products. We combine innovative technologies, best-in-class materials and advanced design to take fall protection to great new heights. The result is precisely engineered systems and components built for exceptional safety. Latchways systems are smartly designed for simple integration into nearly every work environment, bringing confidence to workers at height.

Fall Protection Designed by Us. Just for You.

With our dedicated in-house Design and Specification Team offering a number of free-of-charge services, MSA can assist you with your fall protection requirements.

Design services—creating with your needs in mind

Design and Spec Service—MSA's team of experts works with your AutoCAD roof plans or Building Information Modeling (BIM) files building elevations and sections to produce a complete fall protection system plan—integrated into your working files.

Design Advice Service—Here, our Design and Spec team assesses your own drawings featuring a fall protection layout and then offers advice and recommendations where necessary.

Simply choose whichever service suits you best, and we will provide you with a full Work-at-Height proposal to fulfill all your needs, all your legislative requirements, all within 10 working days.

In-Person Consultation—On more unusual projects that present different kinds of design challenges, it is sometimes easier to talk things through face-to-face. If you would prefer an in-person meeting, MSA will have a member of our team, or a representative from our network of Registered Installers, visit your offices to further discuss your specific design needs.

Latchways® Horizontal Lifelines (HLL)

Latchways horizontal lifelines are known worldwide for their versatility and ease of use, making them the ideal choice for protecting workers as they go about day-to-day activities like maintenance, cleaning, inspection and more.

Easily customized for virtually any structure or unique requirement, MSA precisely engineered horizontal systems are built to work in all areas of industry, construction and maintenance. Installations include retail outlets, stadiums, transmission towers and industrial complexes—not to mention famous sites like New York's Grand Central Station, the Hong Kong Airport, and the Eden Project in Cornwall, home to the world's largest indoor rainforest.

Committed to bringing you the best in quality, versatility and satisfaction, MSA continues to work closely with major roofing manufacturers to produce a full range of fall protection systems for all designs and types of roofs.

Constant Force® Post Technology

In typical leadership fashion, MSA takes the science of Latchways Constant Force and applies it to the fall protection industry—providing an easy-to-install, reliable and cost-effective solution to rooftop safety.

Constant Force Explained

The principles of fall arrest are based on effective load control, meaning that a system must be able to withstand the force of a person's fall while absorbing the energy it generates. In the past, this was achieved by attaching the system to the structure of the building with the anchor point absorbing the load. This inherently caused difficulties for designers and installers, since the system location was determined by the structural elements of the building. System installation, meanwhile, was time consuming because anchors had to be fixed above and below, often creating issues regarding warranties, leakage and cold bridging.

The MSA Solution

Latchways Constant Force Post (CFP) does not need to be fixed to the building structure but instead top-fixes to the roof, therefore simplifying installation, saving time and protecting structures from compromise. With Constant Force technology as its governing principle, the load generated in the event of a fall is absorbed through the Latchways system, minimizing loads placed on the roof structure.
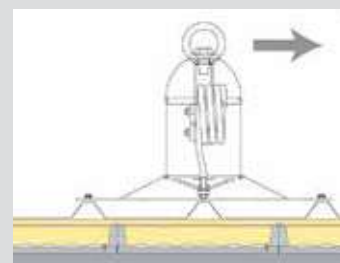
The Constant Force Coil controls the load when a fall occurs, limiting the impact to the roof construction.

Fall Protection: Engineered Systems
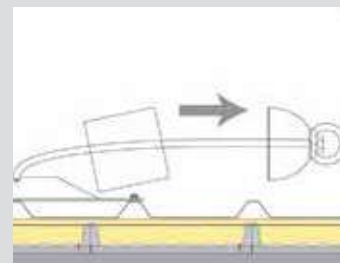
Latchways® Horizontal Lifelines (HLL)

Constant Force® Post Components

Recognizing the importance of installing a fully compliant solution to all major roof constructions, manufacturers across the globe were consulted to create a brilliantly compatible anchor: the Latchways Constant Force Post. With just a handful of components, the Constant Force technology can be designed to fit nearly any roof configuration.

Turnbuckle Assembly	Swage & Clevis	90° Corner Bracket	Variable Bracket	D-Ring & Hanger	Entry Terminal
The turnbuckle assembly provides a cable termination and method of tensioning the system. The integral indicator disc spins when the correct system tension is reached.	The swage and clevis unit provides the method of terminating the cable at the opposite end of the system to the turnbuckle assembly.	This one-piece corner bracket, attached to an intermediate anchor, provides an angle change of 90° within the system.	This bracket attaches to an intermediate anchor and provides an angle change of between 0° and 80° on either horizontal or vertical planes.	The D-ring and hanger form an intermediate cable support. The cable is threaded through the hanger, allowing the Transfastener to travel the length of the system without disconnecting.	Where a Transfastener is used on a system, the entry terminal is used to enable entry and connection.

Corner anchor

Intermediate anchor

End anchor

Start anchor
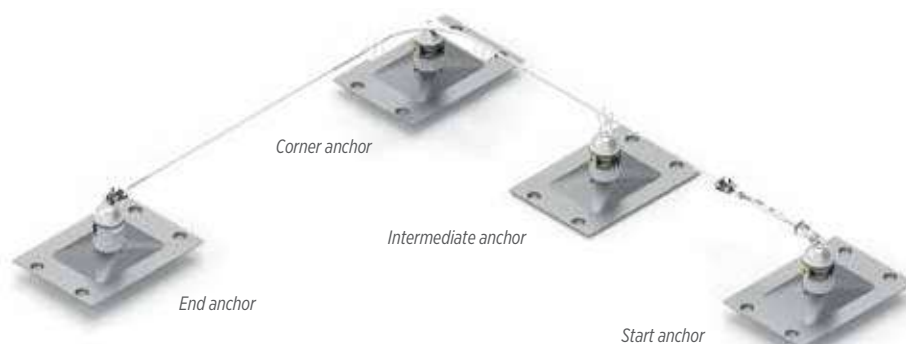
The user, wearing a full-body harness and energy-absorbing lanyard, is continuously attached to the system with a Latchways Transfastener™, MSA's innovative device that can rotate its way through the intermediate cable supports. For systems with no entry terminal, a Removable Transfastener can be used.

Roof-Type Fixing Options

Latchways Constant Force Systems bring complete fall protection solutions to both fall restraint and fall arrest. The simplicity of our fixings allows for quick and easy installation, providing safe solutions to workers at height.

Latchways systems work with all major roof manufacturers.

Constant Force Post on standing-seam roofing	Constant Force Post on corrugated metal decking	Constant Force Post on secret-fix roofing	Constant Force Post on flat roofing
Fixing Method: 4 split clamps	Fixing Method: 16 stitching screws/bulb tite rivets	Fixing Method: 20 bulb tite water seal rivets	Fixing Method: 4 toggle bolts

Latchways® Horizontal Lifelines (HLL)

Freestanding Constant Force® Post

Typically, a cable-based system is installed top-fixed to the roof structure. However, this isn't always practical or desired—for example, when a permanent roof edge or gutter maintenance system is in place but a "one-off" repair is required in the center or another location accessible from this system. Another example is when the facility is being leased and alterations to the roof are not allowed.

For these situations and more, you need the Latchways freestanding Constant Force Post (CFP). To be used on a single-ply roof only, this expertly engineered self-weighted anchor incorporates CFP technology but does not require fixing through the roof sheet. When required, a number of CFPs can be combined to create a full system.
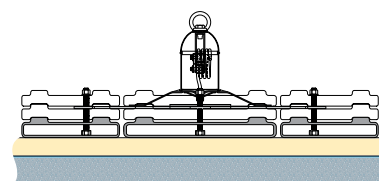
Overhead Systems—Single- and Multi-Span Systems Components

With Latchways overhead systems, all you have to do is look up and you'll find a greater sense of security and confidence.

Combining MSA's unique knowledge of fall protection with innovative Constant Force technology, our overhead systems deliver maximum accessibility and hands-free mobility—not to mention ease of use and simple installation.

The Latchways range of overhead systems house Constant Force technology in an in-line energy absorber, so if a worker connected to the system should fall, the Constant Force energy absorber controls the load back to the structure. Simply put, it's a smartly designed system precisely engineered to react lightning quick.

Ideal for industrial environments and in applications such as warehouses, loading bays and airplane hangars, Latchways overhead system is heads above when it comes to fall protection safety.

Did you know that, for systems up to 200 ft (61 m), intermediate brackets are not necessary? Latchways overhead systems remove the need for structural elements and intermediate bracket fittings to be installed. Latchways is the only product to achieve this.

Single-Span System Components—distances up to 200 ft (61 m)

A   B   C

Multi-Span System Components—all distances and those greater than 200 ft (61 m)

A   D   E   C

A	B	C	D	E
Constant Force Energy Absorber	**Overhead System Mobile Anchorage**	**Line Tensioning Device**	**Mobile Anchorage**	**Intermediate Brackets**
Located at one end of the system, the energy absorber ensures that, in the event of a fall, the maximum load transferred to the structure does not exceed 4047 lb. (18 kN).	Allows an SRL to be connected to the overhead system.	Allows the system to be correctly tensioned for use. The indicator disc will spin freely when the correct tension is reached at 1124 lb. (5 kN).	Allows an SRL to be connected to the overhead system. Anchorage can travel over intermediate brackets without disconnection.	Support the cable on multi-span systems and also accommodate change in direction.

Latchways® Vertical Lifelines (VLL)

Anywhere in the world, wherever there's a call for telecoms, masts, rooftops or any at-height work space—you are likely to find a Latchways vertical cable-based fall protection system. All you have to do is scan the horizon.

Featuring our brilliantly engineered TowerLatch™ and LadderLatch™ systems, the Latchways system options offer outstanding personal safety for those working at height, particularly in the telecom and wind energy industries. Both TowerLatch and LadderLatch emphasize inherent flexibility, meaning they can be configured for a wide variety of applications, including ladders, towers, masts, monopoles and other structures specific to these industries.

Dedicated to Safety

- **Reliable security:** Our VLLs incorporate a fluorescent red indicator that appears in the event of a fall
- **Flexible freedom:** Each systems' universal attachment device rotates freely through intermediate cable guides for continuous hands-free protection
- **Load control:** In the event of a fall, the load applied to the worker is limited to a maximum of 1349 lbs (6 kN) by either a Constant Force absorber at the top of the system or a webbing energy absorber on the device
- **Inspection:** TowerLatch and LadderLatch systems are regarded as part of the tower structure, and inspected accordingly
- **Trusted quality:** Both systems meet or exceed all relevant international standards
- **Extra security:** A webbing strop can be incorporated into the systems' attachment device to facilitate rescue as needed

Engineering excellence

All MSA systems are manufactured to the highest international standards, using only the best materials. Critical components are individually numbered and batch-conformance and dye-penetrant tested—a quality standard unsurpassed in the industry. In addition to rigorous in-house testing, all MSA products undergo external verification to ensure they meet or exceed relevant industry standards.

The TowerLatch system has also been subjected to accelerated aging, wind tunnel trials and cyclic testing—all of which have confirmed the inherent quality and durability of the system.

MSA products are specifically developed to take into account the latest structural innovations, while the company's commitment to excellence means that its systems have a proven track record of safety and reliability—even in the most extreme environments.

Ease of installation and use

- Incorporation at the design stage for new towers or retrofitting to existing structures
- Installation that follows the contours of any structure, including horizontal and inclined sections
- A comprehensive range of components that enables quick and easy installation on any type of overhead line tower, vertical structure or ladder
- Utilization by up to six users
- Units that can be attached or detached at any point in the system
- Installation in virtually any environment

Fixed Ladder Systems

With its simple design concept built for optimal flexibility and superior protection, MSA TowerLatch and LadderLatch systems can be installed to follow the contours of any structure, maximizing the system's safety value in a working environment.

Networks and Telecoms

MSA's mission is to make sure every customer gets the solution they need. Whether the systems you require are for greenfield sites or rooftops sites, new build or retrofit, network roll-out programs or upgrading of antennas, MSA offers tailor-made service with maximum support.

Transmission Towers

Flexible enough to accommodate every safety need for working at height, Latchways vertical systems are ideal for personnel accessing high-voltage transmission towers or transformers in substations.

Wind Turbines

When ascending a ladder within a new build or retrofit turbine, rely on Latchways TowerLatch to deliver the ideal hands-free solution, securing the climber to the cable via the chest D-ring on their full-body harness.

Fixed Ladder Systems

For use on stadiums, oil rigs, land-based wind towers and other elevated work environments, Latchways fixed ladder systems are always ready for climbing. Featuring our innovative LadderLatch™ unit, with its unique starwheel component that provides continuous security with hands-free climbing, our fixed ladder systems are designed to maximize confidence and productivity. And, because they are flexible enough to follow the contours of virtually any structure, these fixed ladder systems maximize the safety value in a working environment, too.

Fixed ladder systems use the LadderLatch™ attachment device.

Vertical Ladder System Kits

The prepackaged ladder system kits listed below are ready to go and can be installed by the end-user. Ladderlatch Climbing Device sold separately.

Kit Numbers	Length
30901-00	20 ft (6 m)
30902-00	40 ft (12 m)
30903-00	55 ft (17 m)
30904-00	75 ft (22 m)
30905-00	90 ft (27 m)

Putting a typical system together

A typical vertical system usually consists of a top anchor, a bottom anchor and a Constant Force energy absorber in between.

Top anchor

The top anchor is a bracket with a built-in safety factor greater than 2 times the potential load generated when a fall occurs.

Constant Force energy absorber

The Constant Force energy absorber ensures that the load applied back to the structure and the climber, in the event of a fall, is limited to a maximum of 1349 lbs (6 kN).

Intermediate cable guides

These brackets support the cable, ensuring that a correct stand-off distance from the structure is maintained. The spacing of the intermediates is dependent on the height and location of the structure. An extensive range is available to cater to all types of structures.

Bottom anchor

The bottom anchor is a bracket that provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Captive security bolts prevent unauthorized system adjustment.

TowerLatch™ Engineered Cable Lifelines

There are two types of systems for overhead line towers: StepBolt and L-Bolt.

StepBolt

Latchways StepBolt is a vertical fall protection system for retro-fitting to overhead line tower climbing legs. Fixed to the structure by the step bolts, the system has no in-line energy absorber. The TowerLatch SP attachment device incorporates a built-in energy-absorbing pack to reduce the end load in the event of a fall. The system is designed for use by up to four workers at the same time.

L-Bolt

Like the StepBolt, Latchways L-Bolt system is also for retrofitting to overhead line tower climbing legs—though it is fixed to the tower by L-bolts, which are available in a range of sizes to suit each structure. The TowerLatch attachment device incorporates a webbing strop to facilitate rescue.

Top anchor

This bracket has a built-in safety factor of greater than 2 times the potential load generated when a fall occurs. The Constant Force energy absorber can be attached at this point.

Constant Force energy absorber (L-Bolt system only)

The Constant Force energy absorber ensures that, in the event of a fall, the load applied back to the structure and the climber is limited to a maximum of 1349 lbs (6 kN). A three- or six-person version is available, with both units having a red fluorescent indicator showing if a fall has occurred.

TowerLatch systems for overhead towers use the TowerLatch or TowerLatch SP attachment devices.

Intermediate cable guides

These brackets support the cable, ensuring that a correct stand-off distance from the structure is maintained and also controls the cable against the effects of wind.
The spacing of the intermediates depends on the height and location of the structure. An extensive range is available to cater to all types of structures.

Bottom anchor

This bottom bracket provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Captive security bolts prevent unauthorized system adjustment.

Latchways® Inclined Systems

While working at height is tough, working at height on an incline can present uniquely different challenges. MSA has developed a comprehensive range of Latchways system components that can be configured to provide a tailored cable lifeline suited to structures that slope. Our two main components, the BridgeLatch™ and ClimbLatch™ devices, are built to bring optimal security, flexibility and mobility to the at-height, on-incline workplace.

BridgeLatch

For inclined lifelines running between 0° and 70°, the Latchways BridgeLatch device secures the user to the cable via a fixed-length lanyard connecting to the D-ring attachment point of a full-body harness. Featuring a starwheel mechanism that rotates freely over intermediate cable supports and brackets, this smartly engineered device eliminates the disconnection requirement that can lead to potential accidents or loss in productivity.

The result is confident, hands-free operation with optimal freedom of movement, because workers can now move up or down the cable system's incline—without the need to detach.

Better still, in the event of a fall, the BridgeLatch device is designed to clamp fast onto the cable, preventing the user from falling or sliding down the incline on which they're working.

Depending on the incline of the system, MSA offers two different types of devices: one that covers inclines up to a 40° pitch, another that should be used on a pitch of up to 70°.

Typical Latchways BridgeLatch System Components

A   B   C   D

A	B	C	D
Entry and exit terminals	**Cable**	**Intermediate cable guides**	**Mid-entry terminal**
BridgeLatch can be connected and disconnected only at designated entry and exit terminals. This built-in safety feature is designed to prevent the user from improperly using or accidentally disconnecting from the device.	Latchways uses a 5⁄16" (8 mm) 1 x 19" 316-grade stainless-steel cable that has a unique identification system. The cable is factory tested to check its physical properties and to ensure consistent performance.	These brackets support the cable, keeping the correct stand-off distance from the structure. The design of the bracket allows for easy retrofit, while the spacing of the brackets is dependent on the height and location of the structure.	With a mid-entry terminal, a user can enter or exit the system at any designated point rather than having to return to the terminals at the ends of the system.

Bridges

BridgeLatch is an ideal choice when the cable system you're attaching to is located at waist height, such as when walking on bridge suspension cables. The Latchways BridgeLatch device has been utilized across the world, including on the Lyiesford Bridges in Norway.

Stadiums

BridgeLatch is the chosen attachment device on more unusual constructions, including highly popular visitor attractions such as "Up at the O2"— where a BridgeLatch device and cable system assists thousands of tourists as they climb and descend the steep profile of the O2 Arena in London.

BridgeLatch attachment device.

Latchways® Inclined Systems

ClimbLatch

Designed to protect the user from a sliding fall on a sloped surface, the ClimbLatch™ device was created for use on an inclined system between 15° and 40°—though it can also be used on a system that moves from horizontal to vertical orientation.

Compatibility among components ensures your customized system—whether vertical, horizontal or inclined—delivers smooth, continuous transitions.

Like the BridgeLatch device, ClimbLatch permits hands-free travel up sloped surfaces, freeing the worker to use both hands for work or climbing. Safety features include a required entry point on which to attach to the system. In the event of a fall, the ClimbLatch device locks onto the cable, not only arresting the fall but keeping the worker from sliding down the system.

ClimbLatch attachment device.

Attachment Devices

All Latchways attachment devices are designed to connect the user, wearing a full-body harness, to a Latchways cable system.

Common to all devices is the patented starwheel mechanism, which rotates freely over intermediate cable supports and around corner brackets without needing to disconnect the unit. This allows hands-free operation for the system users.

- Universal devices for use on all Latchways horizontal systems, suitable for both fall restraint and arrest systems
- Incorporate unique starwheel, allowing the unit to pass over cable supports and corners without the need to detach

Transfastener and Removable Transfastener	LadderLatch	TowerLatch	TowerLatch SP
• While the Transfastener requires a specific entry point, the Removable Transfastener can attach or detach at any safe point	• Anti-inversion mechanism prevents device from connecting to the cable upside-down • Connects to user at chest point • Able to attach or detach at any safe point of the system • In the event of a fall, the unit locks onto the cable and arrests the fall	• Includes integral webbing strop to provide fast post-fall rescue	• Includes an integral energy absorber ("shock pack") for use where a Constant Force absorber is not present in the vertical lifeline system

BridgeLatch

- Latchways BridgeLatch device secures the user to the lifeline cable on inclines that run between 0° and 70°.
- Featuring our groundbreaking starwheel mechanism that rotates freely over intermediate cable supports and brackets, the BridgeLatch's intelligent engineering means you don't have to disconnect the unit and risk potential accidents or loss in productivity.
- The result is remarkable freedom of movement and hands-free operation so users can do their best, most confident work.

ClimbLatch

- The ClimbLatch device has many similar features of the LadderLatch and TowerLatch but is designed to be used on an inclined system—suitable for inclines between 0° and 40°.

Latchways® WinGrip® Vacuum Anchor

Latchways WinGrip Vacuum Anchor is a fall protection system developed for use in the maintenance and manufacturing of aircraft.

As flexible as it is safe, a WinGrip Anchor can be fixed to wings, fuselage or stabilizers. The system is quick to install, easy to use and suitable for work inside the hangar, or outside, on the apron. Originally developed in collaboration with aircraft engineers seeking revolutionary new ways to protect workers at height, the first WinGrip vacuum anchor systems were delivered to British Airways in 1999. These first single-user systems gave the industry a time saving, cost-cutting lift by delivering fall protection in a radius around the anchor, in virtually any location on the aircraft—and they're still being used today. In fact, these days the WinGrip product is so ubiquitous, you'll find it in the aircraft maintenance manuals of both Boeing and Airbus.

Latchways WinGrip aerospace line consists of four different products—each with its own unique benefits that accommodate ever-evolving customer needs and ever-changing legislative requirements.

WinGrip at a Glance

- Lightweight and portable anchors weigh less than 13 lbs (5.9 kg).
- Suitable for wet or dry surfaces, inside hangars, or on the apron
- Intrinsically safe, even with fuel tanks open—runs on compressed air or nitrogen;
  no electrical requirements
- Approved and used by all major aircraft manufacturers
- Easy to install and simple hands-free operation

- Independently tested to meet all relevant international standards
- Abscence of metal-on-metal contact protects surfaces and eliminates risk of sparking
- Single- or multiple-user cable-based systems are available
- Suitable for heavy and light maintenance environments
- Should air supply fail, an alarm will sound and workers have at least 20 minutes to reach safety

WinGrip Single-User System

The original WinGrip is our single-user system, providing a fall protection anchor point for wings, fuselage or stabilizers. Highly portable, this easily installed system is particularly suited to line maintenance and other temporary work. Here, the anchor is positioned and vacuum-locked in place, then used by a worker wearing a full-body harness with a safety lanyard and work positioning rope, connected to the vacuum anchor. The adjustable work positioning rope provides comfortable hands-free operation within a radius of 10 ft (3 m). Two vacuum anchors can be used to triangulate and fix the worker's position.

WinGrip Barrier System

The WinGrip barrier system offers multi-personnel protection. The system provides a safe, enclosed working environment for several workers at a time. Here, workers do not need to use harnesses or lanyards, and they require only basic training to work within the system. Initially designed for Boeing maintenance programs, our barrier system consists of a series of upright stanchions and telescoping horizontal rails. The stanchion is connected at the base to a WinGrip vacuum anchor and is fully adjustable, ensuring a perfect installation on flat or curved surfaces. The horizontal rails are adjustable in length and angle, allowing any shape of the system to be installed in large areas.

Latchways® WinGrip® Vacuum Anchor

WinGrip Lifeline System

The WinGrip lifeline system was introduced in 2005 as an ideal solution for use in construction, heavy maintenance and return operations, allowing for safe, hands-free access for multiple workers along the entire length of a wing or fuselage.

The system consists of two end-anchor vacuum anchors with cables spanning between them, and intermediate anchors as needed to suit any cable length. Each anchor is positioned and vacuum-locked in place, with stainless-steel safety cables connected and tensioned at one end. Workers connect to the cable using the unique Latchways shuttle. Up to four workers can use the system, wearing full-body harnesses and work positioning ropes. Built for greater flexibility and productivity, this system allows hands-free movement along the whole cable length, with shuttles gliding over intermediate anchors.

System benefits

- Can be customized to fit any length of aircraft wing
- Ideal for heavy maintenance and longer access requirements
- Up to 4 users per system

- Fall arrest rated
- Safe method of installation and removal
- Provides full access to any wing without needing to disconnect
- Hands-free operation

Latchways WinGrip AIO Vacuum Anchor

Looking for ways to make flightline or hangar tasks more efficient, MSA's visionary team created the WinGrip AIO: a self-contained, compact, lightweight vacuum anchor. Powered by shop air supply or a refillable gas cylinder that provides at least six hours of stationary use, this marvel of fall protection technology is able to perform in extreme temperature—from arctic cold to desert heat. With little setup or removal time needed, the WinGrip AIO is ideal for use on "walking" areas of wings or structural sections of the fuselage.

Once the WinGrip AIO anchor has been vacuum-locked in place, the worker can attach to the system wearing a full-body harness and work positioning ropes with hands-free access to undertake all necessary maintenance. A single WinGrip AIO anchor provides a working area radius of nearly 10 ft (3 m), while an additional anchor can be attached to allow a larger work area. When using additional anchors, users can "step-stone" their way along the work area.

If for some reason the air or nitrogen supply used by the WinGrip AIO should fail, an audible alarm sounds, and the vacuum anchor will maintain a safe working vacuum for at least 20 minutes.

MSA XTIRPA™ Manhole Guard System

- Used for confined space vertical entry and fall protection when portable base is needed

- Barricades exposed entry points while providing necessary strength needed for fall protection, entry and retrieval applications

- Davit arm and manhole guard with integrated mast interface allows for reduced material surrounding the confined space entry, thus reducing the presence of trip and fall hazards

Weight Capacity

400 lbs. (181 kg) as pictured with MSA Rescuer and MSA Winch

Required System Components

- Davit Arm **IN-2210**
- Manhole Guard with Integrated Mast **IN-2108**

  OR

  Large Manhole Guard with Integrated Mast **IN-2324**
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

MSA Rescuer
Part No. **10158178**

Davit Arm
Part No. **IN-2210**

Mounting Bracket
Part No. **IN-2404**

MSA Winch
Part No. **10147301**

Mounting Bracket
Part No. **IN-2404**

Stabilizer for
Manhole Guard
Part No. **A2108-18**

Manhole Guard
with Integrated Mast
42" (1067 mm)
Part No. **IN-2108**

System Components

Davit 24" Reach	**Manhole Guard Integrated Mast 42"**	**Large Manhole Guard Integrated Mast 42"**	**Multifunctional Barricade 4 Side**	**Multifunctional Barricade 1 Side**	**Kick Plate for Manhole Guard and Barricade**
IN-2210	IN-2108	IN-2324	IN-2101	A2101-07	IN-2176
OSHA	OSHA	OSHA	OSHA		OSHA

Stabilizer for Manhole Guard 42"	**Stabilizer w/ Wheels for Manhole Guard 42"**
A2108-18	A2108-20
OSHA	OSHA

MSA XTIRPA™ Adapter Base System—24″ Reach

- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Many different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- 3″ Adapter Base
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Davit Arm
Part No. **IN-2210**

MSA Rescuer
Part No. **10158178**

MSA Winch
Part No. **10147301**

Mounting Bracket
Part No. **IN-2404**

Mounting Bracket
Part No. **IN-2404**

3″ Mast
Part No. **IN-2003**

3″ Floor Adapter Base
Part No. **IN-2005**
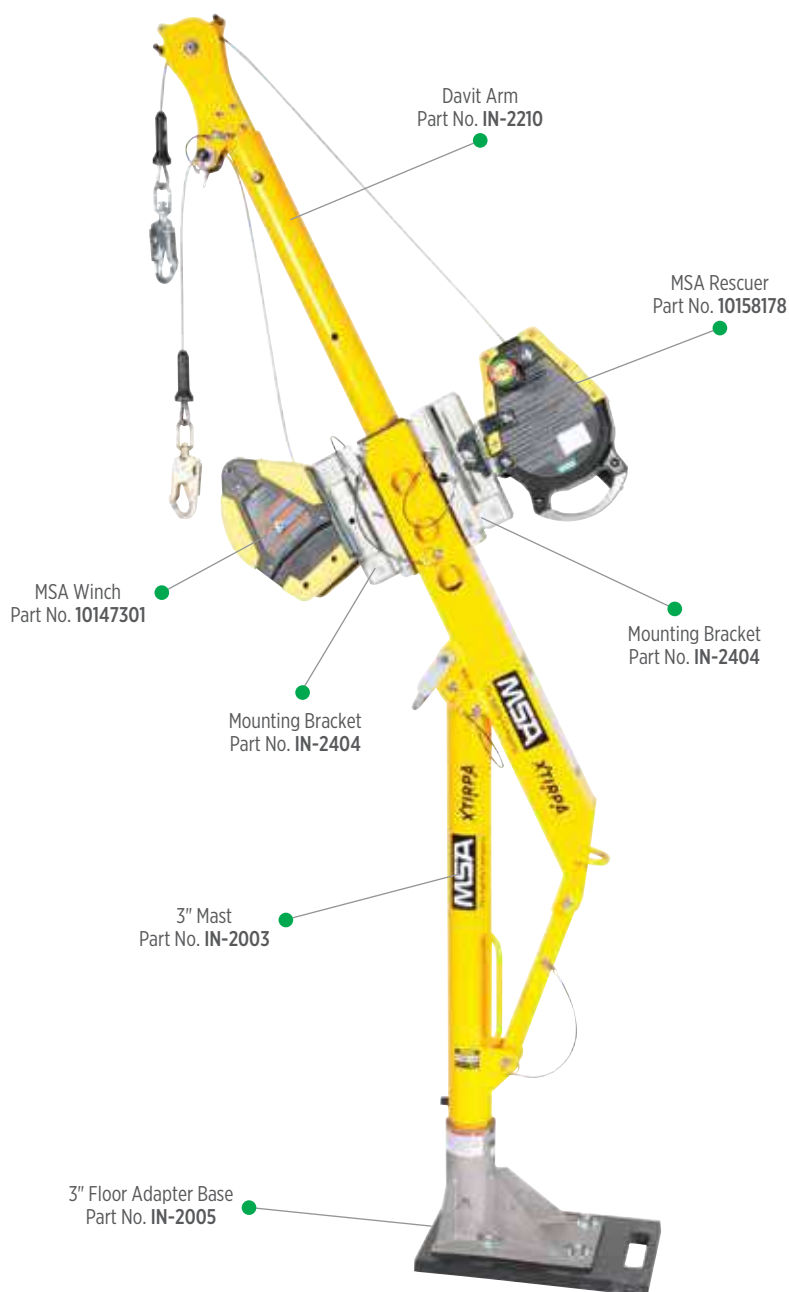
System Components *(see following page)*

MSA XTIRPA™ Adapter Base System—24″ Reach

System Components

Davit Arm 24″ Reach	IN-2210
OSHA	

3″ Diameter Mast	IN-2003
OSHA	

Mast Extension	IN-2044 15″ IN-2109 18″ IN-2045 24″
OSHA	

3″ Floor Adapter Base	IN-2005 304 stainless steel IN-2106 Zinc-plated IN-2311 316 stainless steel
OSHA	

3″ Flush Floor Adapter Base	IN-2006 304 stainless steel IN-2114 Zinc-plated IN-2325 316 stainless steel
OSHA	

3″ Fresh Concrete Floor Adapter Base	IN-2007 304 stainless steel IN-2326 316 stainless steel
OSHA	

3″ Center Mount Floor Adapter Base	IN-2105 304 stainless steel IN-2137 Zinc-plated IN-2329 316 stainless steel
OSHA	

3″ Wall Adapter Base	IN-2013 304 stainless steel IN-2107 Zinc-plated IN-2327 316 stainless steel
OSHA	

3″ Mural Adapter Base w/8″ Offset	IN-2124 304 stainless steel
OSHA	

3″ Mural Adapter Base w/14″ Offset	IN-2067 304 stainless steel IN-2312 316 stainless steel
OSHA	

3″ Top Wall Adapter 90°	IN-2117 304 stainless steel
OSHA	

3″ Exterior Corner Wall Adapter Base	IN-2131 304 stainless steel
OSHA	

3″ Interior Corner Wall Adapter Base	IN-2133 304 stainless steel
OSHA	

Mural Wall Angular Adapter	IN-2314
OSHA	

3″ Sleeve Adapter Base	IN-2097 304 stainless steel IN-2328 316 stainless steel
OSHA	

3″ Barrel Adapter Base	IN-2021 304 stainless steel IN-2129 Zinc-plated
OSHA	

3″ Barrel Adapter Base 2″ to 5″	IN-2315 Zinc-plated
OSHA	

3″ H-Beam Adapter Base	IN-2085 304 stainless steel
OSHA	

Fall Arrest and Rescue Link Adapter	IN-2271
OSHA	

Wire Rope Link	IN-2400
OSHA	

Warning Post	IN-2161
OSHA	

3″ Adapter Cap	IN-2072
OSHA	

3″ Adapter Cap with SST Wire	IN-2073
OSHA	

Reinforcement Plates	P2006-006 For adapter IN-2006 (304 stainless steel) P2105-001 For adapter IN-2105 (304 stainless steel) P2005-001 For adapter IN-2005 (304 stainless steel) P2087-004 For adapter IN-2087 (304 stainless steel) P2013-008 For adapter IN-2013 (304 stainless steel)
OSHA	

Threaded Rod Kit 3/4-10 x 12″	IN-2174
OSHA	

Threaded Rod Kit 3/4-10 x 16″	IN-2212
OSHA	

For rescuer, winch, and mounting bracket ordering information, see page 152.

MSA XTIRPA™ Adapter Base System—30"– 48" Reach

- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2237**
- 4" Mast with 42" Height **IN-2240** or 4" Mast with 60" Height **IN-2313**
- 4" Adapter Base
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Davit Arm
Part No. **IN-2237**

MSA Rescuer
Part No. **10158178**

MSA Winch
Part No. **10147301**

Mounting Bracket
Part No. **IN-2404**

Removable Winch Adapter
Part No. **A2237-06**

4" Mast
Part No. **IN-2240**

4" Floor Adapter Base
Part No. **IN-2238**

System Components

Davit Arm 30" to 48" Reach	Davit Arm 60" to 96" Reach	5.5" Mast for Davit Arm	Removable Winch Adapter	4" Mast for Davit Arm
IN-2237	IN-2197	IN-2199	A2237-06	IN-2240 42" Height IN-2313 60" Height
OSHA	OSHA	OSHA	OSHA	OSHA

4" Floor Adapter Base	4" Center Mount Floor Adapter Base	5.5" Floor Adapter Base	4" Flush Floor Adapter Base	4" Mural Adapter Base
IN-2238 304 stainless steel IN-2302 Zinc-plated	IN-2254 304 stainless steel IN-2304 Zinc-plated	IN-2201 304 stainless steel	IN-2266 304 stainless steel	IN-2253 304 stainless steel IN-2303 Zinc-plated
OSHA	OSHA	OSHA	OSHA	OSHA

5.5" Mural Wall Adapter Base	4" Sleeve Adapter Base	4" Adapter Cap	4" Adapter Cap with SST Wire	4" to 3" Cylinder Reducer with Cable
not shown				
IN-2420	IN-2255 304 stainless steel	IN-2272	IN-2273	A2238-03
OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 152.

MSA XTIRPA™ Hitch Mount System

- Used for confined space vertical entry and fall protection when portable base is needed
- Hitch mount can be customized to accommodate variety of confined space applications
- Commonly used with rescue vehicles for confined space rescue

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2210**
- 3" Mast **IN-2003**
- Hitch Mount with 24" Stabilizer **IN-2126**

  OR

  Hitch Mount with 60" Stabilizer **IN-2204**
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Davit Arm
Part No. **IN-2210**

MSA Rescuer
Part No. **10158178**

Mounting Bracket
Part No. **IN-2404**

MSA Winch
Part No. **10147301**

Mounting Bracket
Part No. **IN-2404**

Hitch Mount
Part No. **IN-2126**

3" Mast
Part No. **IN-2003**

System Components

Davit Arm 24" Reach	3" Diameter Mast	Mast Extension	3" Hitch Mount w/24" Stabilizer	3" Hitch Mount w/60" Stabilizer	Universal Joint Assembly for Hitch Mount	90° Extension for Hitch Mount
IN-2210	IN-2003	IN-2044 15" IN-2109 18" IN-2045 24"	IN-2126	IN-2204	A2126-07	A2126-10
OSHA	OSHA	OSHA	OSHA	OSHA	OSHA	OSHA

C-Clamp Adapters for Hitch Mount	Anchor Bolt Adapter for Hitch Mount	Universal Wall Adapter for Hitch Mount	Beam Adapter for Universal Wall Adapter	90° Extensions for Universal Wall Adapter
A2126-14 16" C-clamp A2126-33 23.5" C-clamp	A2126-21	IN-2348	A2348-08	A2348-03 8" extension for IN-2348 A2348-05 16" extension for IN-2348
OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 152.

MSA XTIRPA™ Pole Hoist System—Horizontal and Vertical Entry

- Used for confined space vertical/horizonal entry and fall protection when portable base is needed
- When attached to anchor point, Pole Hoist provides retrieval and fall protection when limited overhead clearance is present
- Can also be configured for horizontal entry applications such as lifting, lowering and fall protection

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- 48"-72" Pole Hoist **IN-2337**

  OR

  57"-102" Pole Hoist **IN-2338**
- Adjustable T-Bar (size dependent upon entry)
- Anchorage Connector
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Pole Hoist
Part No. **IN-2337**

MSA Rescuer
Part No. **10158178**

Mounting Bracket
Part No. **IN-2404**

Adjustable T-Bar
Part No. **IN-2127**
(size dependent upon entry)

System Components

Pole Hoist	Adjustable T-Bar	Flange Adapter for Lateral Entry	Universal Ring Adapter	Jib Adapter for Lateral Entry
IN-2337 48–78" IN-2338 57–102"	IN-2127 48" IN-2256 47–75" IN-2274 12–14"	IN-2242	IN-2087	IN-2241
OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 152.

MSA XTIRPA™ Manhole Collar System

- Used for confined space vertical entry and fall protection when portable base is needed
- Provides adapter base by fitting within manhole opening
- Designed for frequent setup of confined space equipment over similarly-sized openings

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2210**
- 3" Mast **IN-2003**
- Manhole Collar (size dependent upon entry)
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Davit Arm
Part No. **IN-2210**

MSA Rescuer
Part No. **10158178**

Mounting Bracket
Part No. **IN-2404**

3" Mast
Part No. **IN-2003**

Manhole Collar
Part No. **IN-2222**
(size dependent on entry)

System Components

Davit Arm 24" Reach	3" Diameter Mast	Mast Extension	Mast/Davit Arm	Manhole Retaining Ring	Cone Shaped Safety Ring
IN-2210	IN-2003	IN-2044 15" IN-2109 18" IN-2045 24"	IN-2295 18" reach IN-2363 9" reach	IN-2010	IN-2009
OSHA	OSHA	OSHA	OSHA	OSHA	OSHA

Manhole Collar Seat	Hand Rail Attachment for Mast	Ladder Adapter	Positioning Seat
A2217-10	IN-2282	A2217-05	IN-2244
OSHA	OSHA	OSHA	OSHA

Manhole Collar (sizes are for diameter)

P/N	Size
IN-2287	Fits 16–18"
IN-2219	Fits 18–20"
IN-2220	Fits 20–22"
IN-2221	Fits 22–24"
IN-2217	Fits 24–26"
IN-2222	Fits 26–28"
IN-2218	Fits 28–30"
IN-2167	Fits 30–32"
IN-2223	Fits 32–34"
IN-2224	Fits 34–36"

OSHA

Variable Collar for Convex Entry

P/N	Inclination	Diameter
IN-2486	0–30°	16"–18"
IN-2496	0–30°	18"–20"
IN-2497	0–30°	20"–22"
IN-2490	0–30°	22"–24"
IN-2498	0–30°	24"–26"
IN-2475	0–45°	24"–26"
IN-2500	0–30°	28"–30"
IN-2487	0–30°	30"–32"

OSHA

MSA XTIRPA™ Adjustable Wall Adapter System

- Used for confined space vertical entry and fall protection when portable base is needed
- Range from 6″ to 45″ to accommodate wide range of confined space applications
- Designed for frequent setup of confined space equipment

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2210**
- 3″ Mast **IN-2003**
- Adjustable Wall Adapter
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

Davit Arm
Part No. **IN-2210**

MSA Rescuer
Part No. **10158178**

MSA Winch
Part No. **10147301**

Mounting Bracket
Part No. **IN-2404**

Mounting Bracket
Part No. **IN-2404**

Adjustable Wall Adapter
Part No. **IN-2075**

3″ Mast
Part No. **IN-2003**

System Components

Davit Arm 24″ Reach	3″ Diameter Mast	Mast Extension	Mast/Davit Arm	Adjustable Wall Adapter
IN-2210	IN-2003	IN-2044 15″ IN-2109 18″ IN-2045 24″	IN-2295 18″ reach IN-2363 9″ reach	IN-2008 6″–15.75″ IN-2168 12″–24″ IN-2075 12″–31.5″ IN-2125 24″–45″ IN-2251 12″–30″
OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 152.

MSA XTIRPA™ Counter Weight System

- Used for confined space vertical entry and fall protection when portable base is needed
- System used with Counter Weight Base for counterbalance
- Ideal for movement and access between various confined space entry points in the same area

Weight Capacity

360 lbs. (163 kg) as pictured with MSA Rescuer

Required System Components

- Davit Arm **IN-2237**
- 4" Mast with 42" Height **IN-2240** *OR* 4" Mast with 60" Height **IN-2313**
- T-Base Extension 72" **A2305-16**
- Universal T-Base for 4" Mast **IN-2305**
- 50 lb. Weight Plates **P2305-016N** (Qty: 40)
- Rescuer SRL such as **10158178** and corresponding attachment bracket such as **IN-2404**

MSA Rescuer
Part No. 10158178

Mounting Bracket
Part No. IN-2404

Davit Arm
Part No. IN-2237

MSA Winch
Part No. 10147301

Weight Plate
Part No. P2305-016N

Counter Weight Base
Part No. A2305-27

Mounting Bracket
Part No. IN-2404

4" Mast
Part No. IN-2240

Removable Winch Adapter
Part No. A2237-06

Universal T-Base
Part No. IN-2305

Extension Tubes
Part No. A2305-40

System Components

Davit Arm 30" to 48" Reach	Removable Winch Adapter	4" Mast for Davit Arm	Universal T-Base for 4" Mast	Counter Weight Base	Weight Plate, 50 lb
IN-2237	A2237-06	IN-2240 42" Height IN-2313 60" Height	IN-2305	A2305-27	P2525-017
OSHA	OSHA	OSHA	OSHA	OSHA	OSHA

T-Base Extension, 72" with 2.5" Receiver	Reducer 2.5 to 2" for T-Base Extension	Extension Tubes 96" for Counter Weight Base	T-Base Reducer for 72" Extension	90 Degree Extension for Universal T-Base for 4" Mast
A2305-16	A2217-10	A2305-40	A2305-25	A2305-29
OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 152.

XTIRPA™ XLT

The XTIRPA XLT provides workers with great versatility when looking for elevated tie-off platform solutions. The XLT meets both ANSI and CSA standards for anchorage connectors, and is designed with solid steel for utmost durability in tough environments.

System Components

Trolley for self-retracting lifeline

Horizontal trolley rail

IN-5039
Extendable mast: 15'-25'
Horizontal reach: 6'

Locking safety mechanism in work position

Adjustable height winch

Adapter for self-retracting lifeline

Optional adapter for work winch

IN-5040
Multi-position base

A5039-13
Concrete block set (8)

A5039-12
Steel base
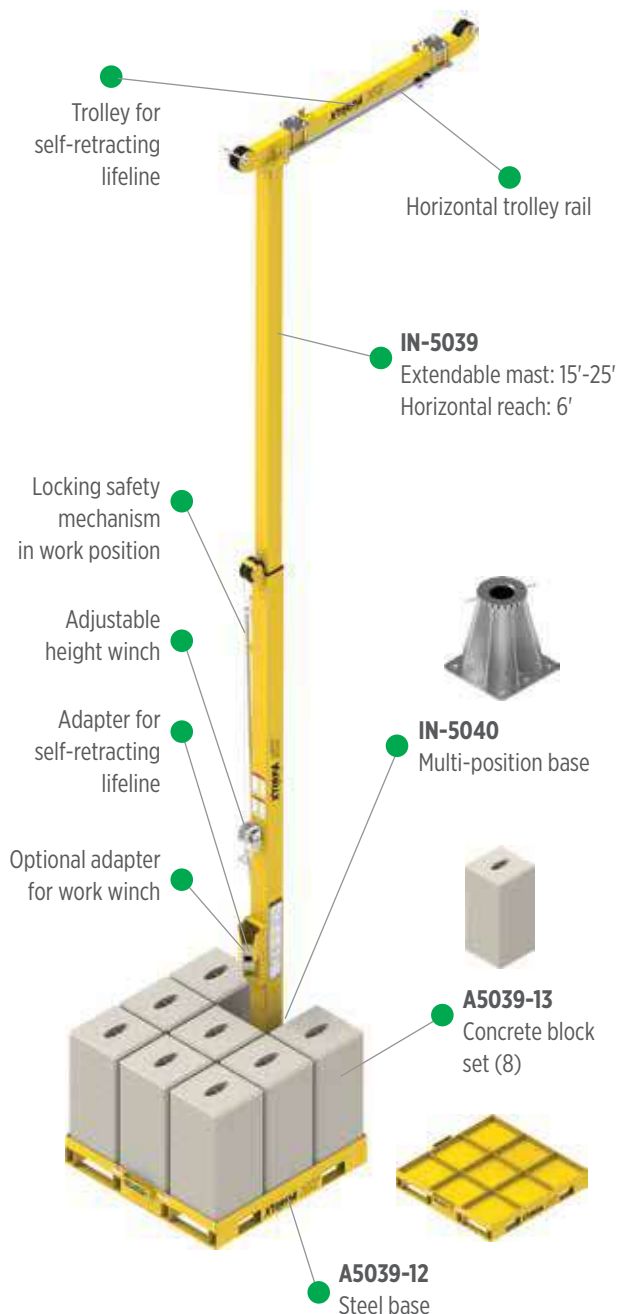
Meets ANSI Z359.18 and CSA Z259.15-17: Anchorage Connectors

Self-Retracting Lifelines sold separately

6'
(1.83 m)

30°

Max
25' (7.62 m)

Max
18' 2" (5.53 m)

Max
20' 5" (6.22 m)

6'
(1.83 m)

30°

Max
25' (7.62 m)

Max
19' 8" (5.99 m)

Max
20' 5" (6.22 m)

A5039-46
Recommended transport structure
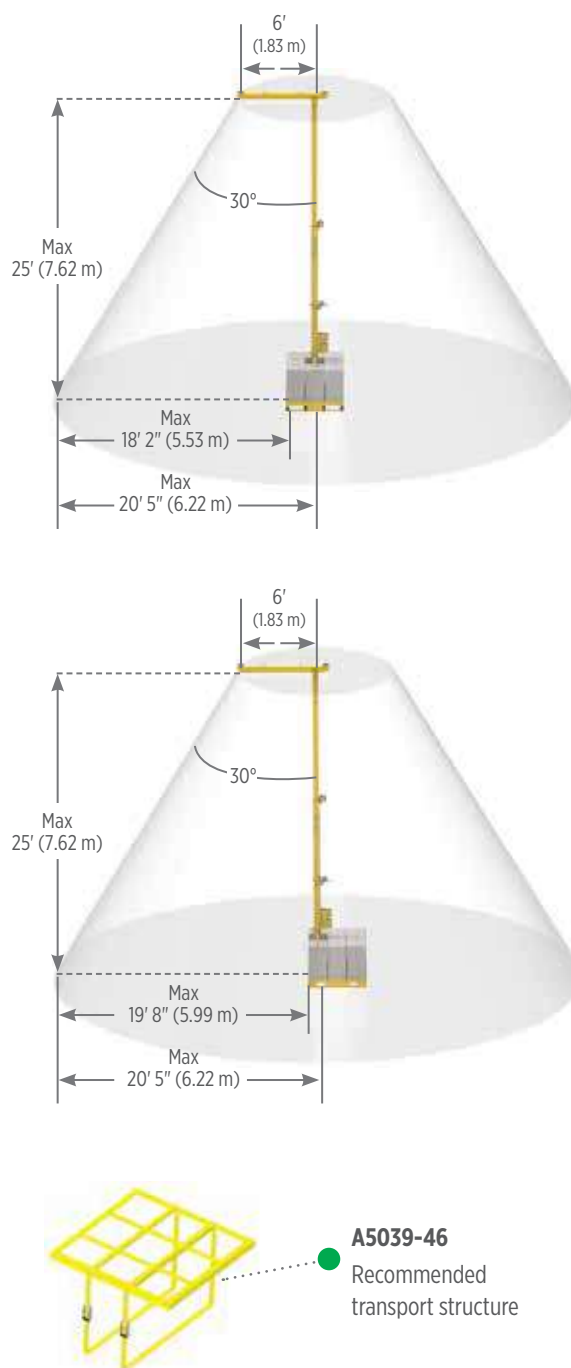
Accessories for XTIRPA™ Confined Space Products

MSA Rescuer

10158178 (ANSI)
10158180 (CSA)

ANSI Z359.14, OSHA, CSA Z259.2.2

MSA Winch

10147301

OSHA

Mounting Bracket (MSA)

IN-2404

Mounting bracket needed for Rescuer (10158178) and Winch (10147301) if using on both XTIRPA confined space products and MSA Tripod

MSA Rescuer — XTIRPA use only

10217196 (ANSI)
10217197 (CSA)

This MSA rescuer can be mounted directly to XTIRPA Confined Space products without the use of mounting bracket IN-2404.

MSA Winch — XTIRPA use only

10217097

OSHA

Square J Hook

Medium Square Hook

Large J Hook

Manhole Cover Lifter

IN-2071	Ratchet Manhole Cover Lifter
P2071-021P	Square J Hook
P2071-022P	Medium Square Hook
P2071-023P	Large J Hook

Manhole Guard Carrying Bag

P2108-025

24" Davit Carrying Bag

P2002-046

MSA Confined Space Entry Equpiment: Retrieval

Tripod System

PRODUCT	MSA Confined Space Entry Kit	MSA Tripod
PART NO.	10163033	10102002
FEATURES	*Includes:* • MSA Tripod • MSA Rescuer & carry bag • MSA Winch & carry bag • Carabiner • Pulley	• Can be set up/dismantled without the use of tools • Automatic hinge lock legs with incremental adjustment • Skid-resistant feet

MSA Confined Space Entry Kits

PART NO.	Stainless Steel Kit Components					Standards		
	8' Tripod	50' MSA Rescuer	65' MSA Winch	Pulleys	Carabiners	ANSI Z359.14	CSA Z259.2.2	OSHA
10163033	■	■	■	2	2	■		■
10163034	■	■		1	1	■		■
10174588	■	■	■	2	2		■	
10174589	■	■		1	1		■	

Replacement Parts and Accessories

10105612	Leg base support strap
10089207	Carabiner
506222	Pulley
506232	Mounting bracket for Dynevac II, 50'
10169369	Tripod duffel bag

MSA Confined Space Entry Equpiment: Retrieval/Lifting/Lowering Devices

MSA Rescuer

- Fast, easy and intuitive fall protection with integral bi-directional retrieval capability
- Arrests fall and allows fallen worker to ascend or descend to safe location
- Durable, economical
- Fast installation and setup
- Patent-pending integral bracket
- Intuitive mode switch
- ANSI Z359.14 and CSA Z259.2.2

PART NO.	Description
10158178	MSA Rescuer, stainless steel cable, 50 ft. (16m) – ANSI Z359.14
10158180	MSA Rescuer, stainless steel cable, 50 ft. (16m) – CSA Z259.2.2
10159755	MSA Rescuer, rope, 50 ft. (16m) – ANSI Z359.14

MSA Winch

- Rugged, versatile and economical mechanism for lifting, lowering and positioning of personnel and materials within confined space applications
- Maximum work load of 400 lb. for personnel, 620 lbs for materials (20:1 design factor)
- Patent-pending bracket attachment for easy installation
- Ergonomic carry grip and foldable crank handle
- Includes integral RFID technology
- Includes self-locking swivel 36C snaphook
- ANSI Z359.1-compliant

PART NO.	Description
10153757	MSA Winch, galvanized cable, **65-ft (20m)**
10147301	MSA Winch, stainless steel cable, **65-ft (20m)**
10154684	MSA Winch, stainless steel cable, **95-ft (29m)**
10148277	**Synthetic rope** for MSA Winch, 65-ft (20m)

Bosun Chair

- Attaches to chest D-ring of MSA full-body harnesses
- Keeps user in upright position while suspended for long durations
- Padded seat for comfort
- Adjustable web assembly ensures security

PART NO.	Description
SSH3505017	Bosun Chair, 5″ x 16½″ padded seat, black nylon straps, 2 carabiners

Spreader Bars

PART NO.	Description
507131	Spreader bar, 22″

Safety Simplified with
Fall Protection Grid Asset Manager

Makes Asset Management More Organized and Efficient

Improves Inspection Compliance

Intuitive	RFID Technology	Employee Assignment	Inspection Tracking	Documentation Capabilities
Easy-to-use, **intuitive app** enables management and assignment to people and locations	App scans/interfaces with unique product identifier to **easily capture key product information**	App offers ability to **assign assets** to individuals and **capture assignment history**	App can be populated with desired inspection date, which will generate **automatic reminders**	App can take and store **product photos** and take **notes**

Build your safety program with the simplicity of an MSA+ subscription.
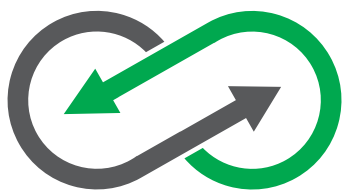
Track Unlimited Assets

Track unlimited assets and provide access to unlimited users all for one low monthly fee.

Customize to Meet Your Needs

The FP Grid Asset Management App includes customizable features allowing you to adjust settings to meet your specific safety program needs.

Better with Time

Features and functionality routinely released to improve your safety program. Get the latest features with every subscription renewal.

V-SERIES® Full-Body Harnesses

Because the safest fall protection is the one you'll actually want to wear, each V-SERIES harness includes unique features to deliver **exceptional comfort**—so you can focus on your work, not your harness:

Superior comfort
The exclusive racing style buckle allows for a close, comfortable fitting harness—eliminating the need for bulky chest straps or cumbersome buckles.

Flexibility
The racing style buckle creates an athletic cut, contouring the harness to the body for improved upper torso movement on the job.

Adjustability
Pull-down adjustment on each harness allows you to quickly get the right fit, that last throughout the work day.

V-FORM® Harness
Setting the Standard

Features:
- Racing-style buckle
- Athletic cut
- Pull-down adjustment
- Easy-to-inspect stitch patterns

V-FORM®+ Harness
Advancing the Standard

Features:
All the benefits of the V-FORM, plus...
- Body-conforming shoulder pad
- Dedicated attachment point for personal fall limiters
- Coated webbing

V-FIT® Harness
Raising Expectations

Features:
All the benefits of the V-FORM+, and...
- Removable, body-conforming shoulder pad
- Horizontal leg straps
- Aluminum hardware

V-FLEX® Harness
Changing the Game

Features:
All the benefits of the V-FIT, plus...
- Thermoform shoulder pad designed for cooling
- Leg padding
- Swiveling hip juncture for mobility
- Integrated suspension trauma straps
- Re-settable lanyard keepers

Harness Size Chart for V-SERIES Harnesses

ft. (m)		
6'–6" (2.0)		
6'–4" (1.9)		SX-LARGE
6'–2" (1.9)		
6'–0" (1.8)	X-LARGE	
5'–10" (1.8)		
5'–8" (1.7)	STANDARD	
5'–6" (1.7)		
5'–4" (1.6)	SMALL /	
5'–2" (1.6)	X-SMALL	
5'–0" (1.5)		

lb. (kg)	110 (50)	130 (59)	150 (68)	170 (77)	190 (86)	210 (95)	230 (105)	250 (114)	270 (123)	290 (132)	310 (141)	330 (150)	400 (181)

V-FLEX® Full-Body Harness

Superior Comfort

1 Using a patent-pending RaceFLEX connection, webbing is routed across the chest for a secure and comfortable fit—eliminating the need for bulky chest straps or cumbersome buckles.

2 Reduce fatigue with flexible foam shoulder pad that responds to your movement to conform to your body, eliminating pressure points and chafing.

3 Keep cool and reduce heat stress with interior padding designed with channels for continuous air flow and ventilation.

Flexibility

4 Using an exclusive racing style design, webbing contours to the torso, reducing the need for adjustments throughout the day and allowing for better mobility on the job.

5 Featuring a patent-pending hip connection, the harness "flexes" with the worker, reducing fatigue throughout the day.

Adjustability

6 Pull down adjustment allows you to quickly and easily get the right fit that last throughout the work day.

V-FLEX Harness Padding

Contoured padding fits the body's normal curves to reduce pinch points and chaffing.

Closed cell foam reduces moisture build-up—keeping your pad from getting soggy and extending the life of your harness.

Keep cool and reduce heat stress with interior padding designed with channels for continuous air flow. Vented "V" feature allows for fresh air to flow from outside the pad, to inside.

*Check out our **Harness Heat Study** here!*

V-FLEX® Full-Body Harness

V-FLEX Standard Full-Body Harness Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration			Leg Straps		Standards		
	XSM	STD	XLG	SXL	Back	Chest	Hip	Tongue Buckle	Quick-Connect	ANSI Z359.11	CSA Z259.5	OSHA
10239822	■				■				■	■	■	■
10239740		■			■				■	■	■	■
10239981			■		■				■	■	■	■
10239982				■	■				■	■	■	■
10239983	■				■			■		■	■	■
10239984		■			■			■		■	■	■
10239985			■		■			■		■	■	■
10239986				■	■			■		■	■	■

V-FLEX Standard Full-Body Harness with Front D-Ring Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration			Leg Straps		Standards		
	XSM	STD	XLG	SXL	Back	Chest	Hip	Tongue Buckle	Quick-Connect	ANSI Z359.11	CSA Z259.5	OSHA
10211316	■				■	■			■	■	■	■
10211317		■			■	■			■	■	■	■
10211318			■		■	■			■	■	■	■
10211319				■	■	■			■	■	■	■
10211320	■				■	■		■		■	■	■
10211321		■			■	■		■		■	■	■
10211322			■		■	■		■		■	■	■
10211323				■	■	■		■		■	■	■

V-FLEX Construction Full-Body Harness Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration			Leg Straps		Standards		
	XSM	STD	XLG	SXL	Back	Chest	Hip	Tongue Buckle	Quick-Connect	ANSI Z359.11	CSA Z259.5	OSHA
10211324	■				■		■		■	■	■	■
10211325		■			■		■		■	■	■	■
10211326			■		■		■		■	■	■	■
10211327				■	■		■		■	■	■	■
10211328	■				■		■	■		■	■	■
10211329		■			■		■	■		■	■	■
10211330			■		■		■	■		■	■	■
10211331				■	■		■	■		■	■	■
10211342	■				■	■	■		■	■	■	■
10211343		■			■	■	■		■	■	■	■
10211344			■		■	■	■		■	■	■	■
10211345				■	■	■	■		■	■	■	■
10211346	■				■	■	■	■		■	■	■
10211347		■			■	■	■	■		■	■	■
10211348			■		■	■	■	■		■	■	■
10211349				■	■	■	■	■		■	■	■

V-FIT® Full-Body Harness

Superior Comfort

1 Using a patent-pending RaceFLEX™ connection, webbing is routed across the chest for a secure and comfortable fit—eliminating the need for bulky chest straps or cumbersome buckles.

RaceFLEX Chest Buckle

2 Shoulder padding responds to your movement to conform to your body, eliminating pressure points and chafing. Shoulder padding can be removed for cleaning, extending the life of the harness.

3 Patented leg strap design keeps leg straps in place as webbing lies horizontally across the thighs, creating a more natural fit.

Flexibility

4 The RaceFLEX Buckle creates an athletic cut contouring the harness to the body and improving upper torso movement on the job.

Adjustability

5 Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.

6 Dedicated attachment point for Personal Fall Limiters allows for quick and easy attachment, and keeps your back D-ring free for other use.

Dedicated PFL attachment
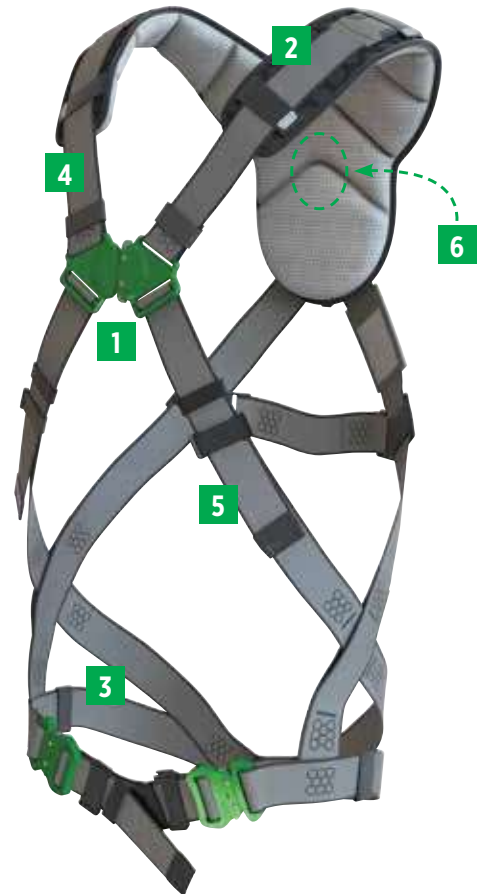
V-FIT Construction Harness Adjustable Waist Pad

The V-FIT Harness' adjustable waist pad allows you to position the waist pad specifically for you and your work day. With it's patent pending design, the V-FIT waist pad can be adjusted higher on your torso for lumbar support or lower for work positioning applications. Designed around pressure points and by choosing breathable materials, the V-FIT waist pad delivers ultimate on-the-job comfort.

V-FIT Construction Harness with tongue buckles

V-FIT Standard Harness with quick-connect buckles

V-FIT® Full-Body Harness

V-FIT Construction Full-Body Harness Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration		Leg Straps		Padding		Standards		
	XSM	STD	XLG	SXL	Back, Chest, & Hip	Back & Hips	Tongue Buckle	Quick-Connect	Shoulder & Lumbar	Shoulder, Leg, & Lumbar	ANSI Z359.11	CSA Z259.10	OSHA
10195133	■					■		■	■		■	■	■
10195134		■				■		■	■		■	■	■
10195135			■			■		■	■		■	■	■
10195136				■		■		■	■		■	■	■
10195140	■				■		■		■		■	■	■
10195141		■			■		■		■		■	■	■
10195142			■		■		■		■		■	■	■
10195143				■	■		■		■		■	■	■
10195149		■				■	■		■		■	■	■
10195150			■			■	■		■		■	■	■
10195151				■		■	■		■		■	■	■
10195181		■				■	■			■	■	■	■
10195182			■			■	■			■	■	■	■

V-FIT Standard Full-Body Harness with Front D-Ring Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration			Leg Straps		Padding	Standards		
	XSM	STD	XLG	SXL	Back & Chest	Back, Chest, & Hip	Shoulder	Tongue Buckle	Quick-Connect	Shoulder	ANSI Z359.11	CSA Z259.10	OSHA
10194673	■				■				■	■	■	■	■
10194656		■			■				■	■	■	■	■
10194657			■		■				■	■	■	■	■
10194862				■	■				■	■	■	■	■
10194863	■					■			■	■	■	■	■
10194864		■				■			■	■	■	■	■
10194865			■			■			■	■	■	■	■
10194866				■		■			■	■	■	■	■
10194892	■				■			■		■	■	■	■
10194893		■			■			■		■	■	■	■
10194894			■		■			■		■	■	■	■
10194895				■	■			■		■	■	■	■
10194896	■					■		■		■	■	■	■
10194897		■				■		■		■	■	■	■
10194898			■			■		■		■	■	■	■
10194899				■		■		■		■	■	■	■
10194900	■						■	■		■	■	■	■
10194905		■					■	■		■	■	■	■
10194906			■				■	■		■	■	■	■
10194907				■			■	■		■	■	■	■

V-FIT® Full-Body Harness

V-FIT Standard Full-Body Harness Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration				Leg Straps		Padding			Standards		
	XSM	STD	XLG	SXL	Back	Back & Hips	Back, Shoulder	Back, Hip, & Shoulder	Tongue Buckle	Quick-Connect	None	Shoulder	Shoulder & Leg	ANSI Z359.11	CSA Z259.10	OSHA
10194536	■				■					■		■		■	■	■
10194630		■			■					■		■		■	■	■
10194671			■		■					■		■		■	■	■
10194672				■	■					■		■		■	■	■
10194872	■					■				■		■		■	■	■
10194873		■				■				■		■		■	■	■
10194874			■			■				■		■		■	■	■
10194875				■		■				■		■		■	■	■
10194888	■				■				■			■		■	■	■
10194889		■			■				■			■		■	■	■
10194890			■		■				■			■		■	■	■
10194891				■	■				■			■		■	■	■
10194908	■					■			■			■		■	■	■
10194909		■				■			■			■		■	■	■
10194910			■			■			■			■		■	■	■
10194931				■		■			■			■		■	■	■
10194936	■						■		■			■		■	■	■
10194937		■					■		■			■		■	■	■
10194938			■				■		■			■		■	■	■
10194939				■			■		■			■		■	■	■
10194940	■							■	■			■		■	■	■
10194941		■						■	■			■		■	■	■
10194942			■					■	■			■		■	■	■
10194943				■				■	■			■		■	■	■
10194961		■				■				■			■	■	■	■
10194962			■			■				■			■	■	■	■
10195038		■			■					■	■			■	■	■
10195039			■		■					■	■			■	■	■
10195092		■			■				■		■			■	■	■
10195093			■		■				■		■			■	■	■
10195110		■				■			■		■			■	■	■
10195111			■			■			■		■			■	■	■

V-FIT® Full-Body Harness

| V-FIT Derrick Harness | V-FIT Tower Harness |

V-FIT Derrick Full-Body Harness Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration	Leg Straps	Padding	Standards		
	XSM	STD	XLG	SXL	Back, Chest, & Hip	Tongue Buckle	Shoulder & Lumbar	ANSI Z359.11	CSA Z259.10	OSHA
10195204	■				■	■	■	■	■	■
10195205		■			■	■	■	■	■	■
10195206			■		■	■	■	■	■	■
10195207				■	■	■	■	■	■	■

V-FIT Tower Full-Body Harness with Front D-Ring Ordering Information

Part Number	Size (See chart on page 155.)				D-Ring Configuration	Leg Straps		Tool Belt		Padding	Standards		
	XSM	STD	XLG	SXL	Back, Hip, & Shoulder	Tongue Buckle	Quick-Connect	Tongue Buckle	Quick-Connect	Shoulder, Leg, & Lumbar	ANSI Z359.11	CSA Z259.10	OSHA
10218041	■				■	■		■		■	■	■	■
10218042		■			■	■		■		■	■	■	■
10218043			■		■	■		■		■	■	■	■
10218045				■	■	■		■		■	■	■	■
10218046	■				■		■		■	■	■	■	■
10218048		■			■		■		■	■	■	■	■
10218049			■		■		■		■	■	■	■	■
10218050				■	■		■		■	■	■	■	■

V-FORM®+ Full-Body Harness

Superior Comfort

1 The patent-pending racing-style buckle allows for a close, comfortable harness fit — eliminating the need for bulky chest straps or cumbersome buckles.

2 Shoulder padding responds to your movement to conform to your body, eliminating pressure points and chafing.

Increased Flexibility

3 The racing-style buckle creates an athletic cut, contouring the harness to the body and improving upper torso movement on the job.

Adjustability

4 Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.

5 Dedicated attachment point for Personal Fall Limiters allows for quick and easy attachment, and keeps your back D-ring free for other use.

V-FORM+ Harness with tongue-buckle leg straps

V-FORM+ Harness with quick-connect leg straps

V-FORM®+ Full-Body Harness

V-FORM+ Harness Ordering Information

Part Number	D-Ring Configuration				Size (See chart on page 155.)				Leg Buckle Type		Padding	Standards
	Back	Back, Hips	Back, Chest	Back, Chest, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Quick-Connect	Shoulder	ANSI Z359.11/ CSA Z259.10/ OSHA
10206085	■				■				■		■	■
10205845	■					■			■		■	■
10206086	■						■		■		■	■
10206087	■							■	■		■	■
10206088		■			■				■		■	■
10206089		■				■			■		■	■
10206090		■					■		■		■	■
10206091		■						■	■		■	■
10206092			■		■				■		■	■
10206093			■			■			■		■	■
10206094			■				■		■		■	■
10206095			■					■	■		■	■
10206136				■	■				■		■	■
10206137				■		■			■		■	■
10206138				■			■		■		■	■
10206139				■				■	■		■	■
10206100	■				■					■	■	■
10206101	■					■				■	■	■
10206102	■						■			■	■	■
10206103	■							■		■	■	■
10206104		■			■					■	■	■
10206105		■				■				■	■	■
10206106		■					■			■	■	■
10206107		■						■		■	■	■
10206108			■		■					■	■	■
10206109			■			■				■	■	■
10206110			■				■			■	■	■
10206111			■					■		■	■	■
10206144				■	■					■	■	■
10206145				■		■				■	■	■
10206146				■			■			■	■	■
10206147				■				■		■	■	■

V-FORM®+ Full-Body Harness

V-FORM+ Construction Harness Ordering Information

Part Number	D-Ring Configuration		Size (See chart on page 155.)				Leg Buckle Type		Standards
	Back, Hips	Back, Chest, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Quick-Connect	ANSI Z359.11/ CSA Z259.10/ OSHA
10206160	■		■				■		■
10206161	■			■			■		■
10206162	■				■		■		■
10206163	■					■	■		■
10206164		■	■				■		■
10206165		■		■			■		■
10206166		■			■		■		■
10206167		■				■	■		■
10206172	■		■					■	■
10206173	■			■				■	■
10206174	■				■			■	■
10206175	■					■		■	■
10206176		■	■					■	■
10206177		■		■				■	■
10206178		■			■			■	■
10206179		■				■		■	■

V-FORM+ Construction Harness with tongue-buckle leg straps

V-FORM® **Full-Body Harness**

Superior Comfort

1 The patent-pending RaceFORM™ buckle allows for a close, comfortable harness fit—eliminating the need for bulky chest straps or cumbersome buckles.

Quick-Connect Racing-Style Chest Buckle

V-FORM Construction Harness Waist Pad

Increased Flexibility

2 The RaceFORM buckle creates an athletic cut, contouring the harness to the body and improving upper torso movement on the job.

Adjustability

3 Pull-down adjustment allows you to quickly and easily get the right fit that lasts throughout the work day.

V-FORM Construction Harness Shoulder Padding

V-FORM Harness with front D-ring

V-FORM Harness with Quick-Connect Racing-Style Buckle

V-FORM® Full-Body Harness

V-FORM Harness with Quick-Connect Racing-Style Buckle Ordering Information

Part Number	D-Ring Configuration						Size (See chart on page 155.)				Leg Buckle Type		Padding	Standards
	Back	Back with D-Ring Extender	Back, Chest	Back, Chest, Hips	Back, Shoulders	Back, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Qwik-Fit	None	ANSI Z359.11/CSA Z259.10/OSHA
10206057	■						■				■		■	■
10206058	■							■			■		■	■
10206059	■								■		■		■	■
10206060	■									■	■		■	■
10206065			■				■				■		■	■
10206066			■					■			■		■	■
10206067			■						■		■		■	■
10206068			■							■	■		■	■
10206069				■			■				■		■	■
10206070				■				■			■		■	■
10206071				■					■		■		■	■
10206072				■						■	■		■	■
10206073					■		■				■		■	■
10206074					■			■			■		■	■
10206075					■				■		■		■	■
10206076					■					■	■		■	■
10206061						■	■				■		■	■
10206062						■		■			■		■	■
10206063						■			■		■		■	■
10206064						■				■	■		■	■
10207679	■						■					■	■	■
10207680	■							■				■	■	■
10207731	■								■			■	■	■
10207732	■									■		■	■	■
10208260						■	■					■	■	■
10208271						■		■				■	■	■
10208272						■			■			■	■	■
10208273						■				■		■	■	■
10208274		■					■				■		■	■
10208275		■						■			■		■	■
10208276		■							■		■		■	■
10208277		■								■	■		■	■

V-FORM Construction Harness with Quick-Connect Racing-Style Buckle Ordering Information

Part Number	D-Ring Configuration	Size (See chart on page 155.)				Leg Buckle Type	Padding	Standards
	Back, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Shoulder	ANSI Z359.11/CSA Z259.10/OSHA
10207733	■	■				■	■	■
10207734	■		■			■	■	■
10207735	■			■		■	■	■
10207736	■				■	■	■	■

V-FORM® Full-Body Harness

V-FORM Harness with Stainless Steel Hardware Ordering Information

Part Number	D-Ring Configuration	Size (See chart on page 155.)				Leg Buckle Type		Padding	Standards
	Back	XSM	STD	XLG	SXL	Tongue Buckle	Qwik-Fit	None	ANSI Z359.11/ CSA Z259.10/ OSHA
10197233	■	■					■	■	■
10197234	■		■				■	■	■
10197235	■			■			■	■	■
10197236	■				■		■	■	■
10197237	■	■				■		■	■
10197238	■		■			■		■	■
10197239	■			■		■		■	■
10197240	■				■	■		■	■

V-FORM Standard Harness with stainless steel hardware

The Safety Company
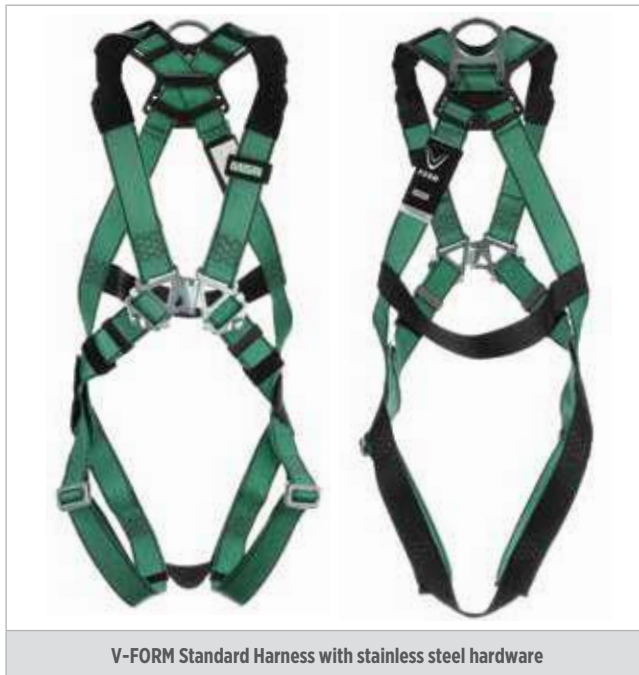
Gravity™ Family of Full-Body Harnesses

Gravity harnesses meet the needs of workers in specialty environments or specific work applications.

Gravity Urethane-Coated Full-Body Harness	Gravity Welder Full-Body Harness	Gravity Suspension Full-Body Harness
ADDED FUNCTIONALITY		
Stain-resistant and easy to clean	**High-heat resistant**	**Comfortable for extended periods**
APPLICATIONS		
• Food processing • Oil, gas, petrochemical • Water treatment • Painting • Cleaning & maintenance	• High-heat environments • Welding	• All applications that require extended periods of time in a fall protection harness

Gravity™ Family of Full-Body Harnesses

Gravity Urethane-Coated Full-Body Harness

Features

- Urethane-coated webbing provides protection against heavy oil & grease
- Rated to 400-lb./180kg capacity
- Extremely easy to clean

| | Style | Hardware | | D-Ring Configuration | | Leg Buckle Type | Size | | | | Standards |
PART NO.	Vest-Type	Standard	Stainless Steel	Back	Back, Hips	Tongue Buckle	XSM	STD	XLG	SXL	OSHA/ANSI/CSA
10155870	■	■		■		■	■				■
10155871	■	■		■		■		■			■
10155872	■	■		■		■			■		■
10155873	■	■		■		■				■	■
10155874	■	■			■	■	■				■
10155875	■	■			■	■		■			■
10155876	■	■			■	■			■		■
10155877	■	■			■	■				■	■
10163556	■		■	■		■	■				■
10163557	■		■	■		■		■			■
10163558	■		■	■		■			■		■
10163559	■		■	■		■				■	■
10163560	■		■		■	■	■				■
10163561	■		■		■	■		■			■
10163562	■		■		■	■			■		■
10163563	■		■		■	■				■	■

Gravity Welder Full-Body Harness

Features

- Made of 100% Kevlar webbing
- Performs very well in high heat/welding applications

| | D-Ring Configuration | | | Size | | | | Leg Buckle Type | Standards |
PART NO.	Back	Back, Hips	Back, Chest, Hips	XSM	STD	XLG	SXL	Quick-Fit	OSHA/ANSI/CSA
10103213	■			■				■	■
10103216	■				■			■	■
10103217	■					■		■	■
10103218	■						■	■	■
10158954		■		■				■	■
10151154		■			■			■	■
10158956		■				■		■	■
10158957		■					■	■	■
10164035			■	■				■	■
10164036			■		■			■	■
10164037			■			■		■	■
10164038			■				■	■	■

Gravity™ Family of Full-Body Harnesses

Gravity Suspension Full-Body Harness

Features

- 8 adjustment points for perfect sizing and fit
- Carabiner with 3,600 lb. (16kN) gate strength
- Elastic web keepers provide flexibility to manage excess webbing

D-rings
- Aluminum D-ring hardware
- Available at ventral (waist), sternal, hip and back locations
- Fold-back hip D-rings that allow users to reduce possible snag hazards
- Fall arrest-rated sternal and back D-ring

Buckles
- Quick adjusting, bayonet-style buckles allow one-hand tightening and loosening
- Available with locking engagement window to confirm secure connection
- Undercut engagement prevents both tabs from disconnection while under tension

Tool Loops
- Internal rigid supports to make connection of tools easier
- Tool loops on leg straps provide more tool-holding options, and may be cut off if not needed

Padding
- All versions include waist and leg padding to improve suspension comfort
- Gravity Suspension versions available with comfort shoulder padding
- Waist pad with dual-layer construction to reduce pressure during suspension

Gravity Suspension Harness Sizing Chart

HEIGHT ft. (m)			
6' 6" (2)			LARGE
6' 4" (1.95)			
6' 2" (1.9)			
6' 0" (1.85)			
5' 10" (1.8)		MEDIUM	
5' 8" (1.75)			
5' 6" (1.7)			
5" 4' (1.65)			
5' 2" (1.6)	SMALL		
5' 0" (1.55)			
4' 10" (1.5)			

WEIGHT lb. (kg): 110 (50), 132 (60), 154 (70), 176 (80), 198 (90), 220 (100), 242 (110), 264 (120), 286 (130), 308 (140)
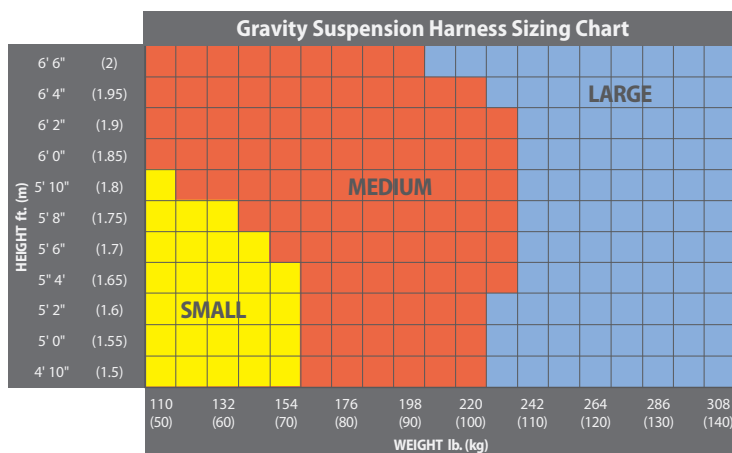
PART NO.	Aluminum D-ring Configuration	Size		Leg Buckle Type	Padding	Web Color		Standards
	Back, Hips, Chest	MED	LG	Quick-Connect	Shoulder, Leg & Lumbar	Green	Black	ANSI Z359.11
10150454	■	■		■	■	■		■
10150455	■		■	■	■	■		■
10150457	■	■		■	■		■	■
10150458	■		■	■	■		■	■

Arc Flash Full-Body Harnesses

EVOTECH® Arc Flash Full-Body Harness

Features

- Reflectivity on shoulder padding provides increased visibility in low-light applications
- Moisture-wicking padding keeps users cooler
- 100% Kevlar webbing is fire-resistant and self-extinguishing
- Harness is lighter—by more than 1 lb. —than comparable harnesses
- ASTM F887-tested with fire-resistant (FR) properties

EVOTECH Harness Sizing Chart
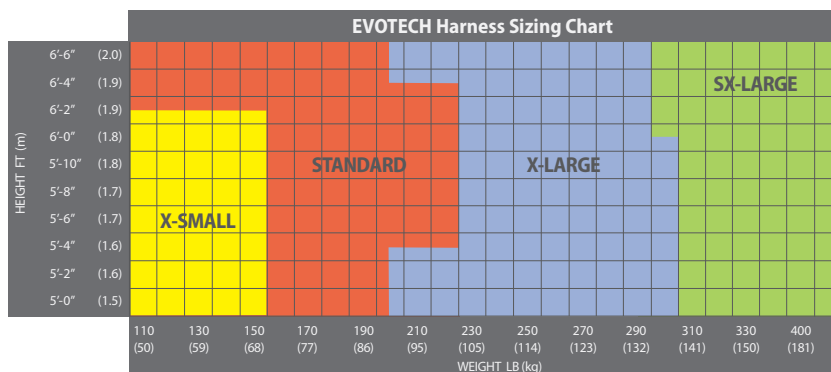
PART NO.	D-Ring Configuration		Web Loop	Size				Leg Buckle Type		Standards	
	Back	Back, Hips	Back	XSM	STD	XLG	SXL	Quik-Fit	Quick-Connect	OSHA/ANSI	OSHA/ANSI/CSA
10150159			■	■				■		■	
10150160			■		■			■		■	
10150161			■			■		■		■	
10150162			■				■	■		■	
10150147			■	■					■	■	
10150148			■		■				■	■	
10150149			■			■			■	■	
10150150			■				■		■	■	
10150155	■			■				■			■
10150156	■				■			■			■
10150157	■					■		■			■
10150158	■						■	■			■
10150143	■			■					■		■
10150144	■				■				■		■
10150145	■					■			■		■
10150146	■						■		■		■
10155823		■		■				■			■
10155824		■			■			■			■
10155825		■				■		■			■
10155826		■					■	■			■
10150151		■		■					■		■
10150152		■			■				■		■
10150153		■				■			■		■
10150154		■					■		■		■

Arc Flash Full-Body Harnesses

Vestype Harness

Crossover Harness

Workman® Arc Flash Web Loop Full-Body Harness

Features

• ASTM F887 tested   • Arc flash symbol for easy identification

PART NO.	Style		Web Loop		Size				Leg Buckle Type	Belay Loops	Rubber Covers	Standards
	Vestype	Crossover	Back	Back, Hips	XSM	STD	XLG	SXL	Tongue Buckle			OSHA/ANSI
10152632	■		■		■				■			■
10152633	■		■			■			■			■
10152634	■		■				■		■			■
10152635	■		■					■	■			■
10163234	■		■		■				■		■	■
10163238	■		■			■			■		■	■
10163266	■		■				■		■		■	■
10163269	■		■					■	■		■	■
10162689	■		■		■				■	■		■
10162690	■		■			■			■	■		■
10162691	■		■				■		■	■		■
10162692	■		■					■	■	■		■
10162693	■			■	■				■	■		■
10162694	■			■		■			■	■		■
10162695	■			■			■		■	■		■
10162696	■			■				■	■	■		■
10163240		■	■		■				■		■	■
10163297		■	■			■			■		■	■
10163303		■	■				■		■		■	■
10163305		■	■					■	■		■	■
10162681		■	■		■				■	■		■
10162682		■	■			■			■	■		■
10162683		■	■				■		■	■		■
10162684		■	■					■	■	■		■
10162685		■		■	■				■	■		■
10162686		■		■		■			■	■		■
10162687		■		■			■		■	■		■
10162688		■		■				■	■	■		■

Harness Accessories

PRODUCT	Double D-Ring Extension	Single D-Ring Extension	D-Ring Extender
PART NO.	10203182	10203183	505318
FEATURES	• 1″ nylon web • Sewn loop	• 1″ nylon web • Sewn loop	• Nylon • 1 D-ring • 8″ (back D-ring extension)

P/N 10063431

P/N 10063441

PRODUCT	Suspension Trauma Safety Step
PART NO.	10063431 with carabiner 10063441 without carabiner
FEATURES	• Suspension Trauma Safety Steps allows fallen worker to relieve pressure by inserting a foot into the step loops and then standing up in the harness to increase blood flow to the legs
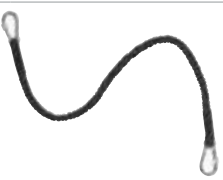
PRODUCT	Lanyard Keepers	Tool Lanyard (includes small carabiner)
PART NO.	10113240	10110670
FEATURES	• Velcro	• Tool drop prevention

LANYARD CLIP	SHW26	Lanyard Clip (Velcro key ring)
2-PIECE KEEPER	10031676	Plastic keeper prevents harness web slippage for better fit

PRODUCT	Universal Shoulder Pad	Universal Shoulder Pads
PART NO.	10028444	10077489 1 set

MSA Tool Tethers

Designed to prevent falling objects, MSA's line of tool tethers makes product selection simpler by using color differentiation to identify the weight capacity of each tether. Additionally, the durable stainless steel hardware supports increased product life to maximize your investment. All MSA Tool Tethers meet ANSI/ISEA 121-2018.

PRODUCT	Tool Tether with *Carabiner and Adjustable Loop*	Tool Tether with *Carabiner and Detach Loop*	Tool Tether with *Detachable Loops*
CAPACITY	5 lb.	5 lb.	5 lb.
PART NO.	10207284	10207289	10207314
FEATURES	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 9.8" (25 cm)
PRODUCT	Tool Tether with *Carabiner and Adjustable Loop*	Tool Tether with *Carabiner and Loop*	Tool Tether with *Double Carabiner*
CAPACITY	10 lb.	10 lb.	10 lb.
PART NO.	10207285	10207287	10207290
FEATURES	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)
PRODUCT	Tool Tether with *Carabiner and Adjustable Loop*	Tool Tether with *Carabiner and Detach Loop*	Tool Tether with *Detachable Loops*
CAPACITY	15 lb.	15 lb.	15 lb.
PART NO.	10207286	10207288	10207313
FEATURES	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 9.8" (25 cm)
PRODUCT	Tool Tether with *Wrist Band*	Tool Tether with *Double Carabiner*	
CAPACITY	2 lb.	25 lb.	
PART NO.	10089207	10207311	
FEATURES	Polyester webbing width: .8" (20 mm) Retracted length: 9.8" (25 cm)	Polyester webbing width: .8" (20 mm) Retracted length: 35.4" (90 cm) Extended length: 47.2" (120 cm)	

Connecting Devices: Energy-Absorbing Lanyards

Choosing the right lanyard can be confusing with so many options!

The **V-SERIES line of lanyards** will help simplify product selection by using large identifiable icons on the side of the energy absorber, making it easy to find the right lanyard for the right application. On top of that, a simple naming convention based on the application will keep things simple. The lanyards are also lightweight and improve comfort through a small, compact energy absorber. The additional energy absorber cover* prolongs product life, by protecting the energy absorber and labeling inside.

*Standard lanyard does not have additional energy absorber cover.

Stretch | Tie-Back | Utility

Welding | Anti-Corrosion | Leading Edge

V-SERIES® Standard Lanyards

The V-Series shock-absorbing lanyard line simplifies product selection by offering a concise line of standard lanyards that meet a wide range of customer needs. These lightweight safety lanyards not only limit force on the body in a fall, but also on the anchor location. The shock absorbing pouch includes a clear, durable protective cover on the labels to increase service life, and allow for easy inspection.

CAPACITY	*ANSI Z 359.13:* 130 lb.–310 lb. (59–140 kg)
	CSA Z259.11: 150 lb.–310 lb. (68–140 kg)
	CSA Z259.11 Light Weight: 110 lb.–230 lb. (50–105 kg)
WEB MATERIAL	Polyester
SNAPHOOK MATERIAL	Steel
PRODUCT WEIGHT	2.35–5.73 lb.
STANDARDS	ANSI Z359.13, CSA Z259.11–17, OSHA

LANYARDS

Adjustable single-leg with small snaphook	Adjustable twin-leg with large snaphooks	Tie-back single-leg with small snaphook	Tie-back twin-leg with small snaphooks
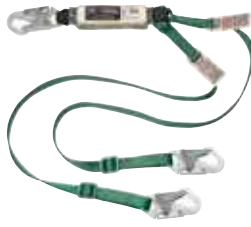
| PART NO. | Snaphooks | Type | | | | | Length | Standards | | |
		Single-Leg	Twin-Leg	Tie-back	Adjustable	Fixed		ANSI Z359.13	CSA Z259.11-17	CSA Z259.11-17 Lightweight Worker
10191755	SM	■			■		6'	■		
10191756	SM		■		■		6'	■		
10191757	LG	■			■		6'	■		
10191758	LG		■		■		6'	■		
10193124	SM	■				■	3'	■		
10193125	SM	■				■	4'	■		
10193128	SM	■		■			6'	■		
10193129	SM		■	■			6'	■		
10188100	SM	■			■		6'		■	
10188102	SM		■		■		6'		■	
10188103	LG	■			■		6'		■	
10188101	LG		■		■		6'		■	
10190397	SM	■			■		6'			■
10190399	SM		■		■		6'			■
10190398	LG	■			■		6'			■
10190400	LG		■		■		6'			■
10193126	SM	■				■	3'		■	
10193127	SM	■				■	4'		■	
10193130	SM	■		■			6'		■	
10193151	SM		■	■			6'		■	

| PART NO. | Snaphook | Type | Standards | |
		Energy-Absorber with D-ring	ANSI Z359.13	CSA Z259.11-17
10193154	SM	■	■	
10193155	SM	■		■

Connecting Devices: Energy-Absorbing Lanyards

12FT Freefall and Heavy Worker Energy-Absorbing Lanyards

• For use in applications where tying-off at foot level is necessary
• Capacity: 130 lb. – 310 lb (12 ft FF)—ANSI / 310 lb. – 400 lb (6 ft FF)—OSHA

LANYARDS

12FT freefall single-leg with small snaphook	12FT freefall twin-leg with small snaphook	12FT freefall single-leg with large snaphook	12FT freefall twin-leg with large snaphook

PART NO.	Type		Snaphooks		Length	Standards	
	Single-Leg Web	Twin-Leg Web	36C (small)	36CL (large)		ANSI Z359.13	OSHA
10211485	■		■		6'	■	■
10211486		■	■		6'	■	■
10211487	■			■	6'	■	■
10211488		■		■	6'	■	■

V-SERIES® Stretch Lanyards

The V-Series stretch shock absorbing lanyard line simplifies product selection by offering a concise line of lanyards that meet a wide range of customer needs. Reduce snag and trip hazards, and increase worker flexibility with the stretch style of webbing. Abrasion resistant cover for the energy absorber provides additional protection for increased service life. All stretch lanyards can be easily identified by the icon on the energy absorber's cover.

LANYARDS

Stretch single-leg with small snaphook	Stretch twin-leg with small snaphook	Stretch single-leg with large snaphook	Stretch twin-leg with large snaphook

PART NO.	Type		Snaphooks		Length	Standards
	Single-Leg Web	Twin-Leg Web	36C (small)	36CL (large)		ANSI Z359.13
10193748	■		■		6'	■
10193553		■	■		6'	■
10193554	■			■	6'	■
10193555		■		■	6'	■

Connecting Devices: Energy-Absorbing Lanyards

V-SERIES® Tie-Back Lanyards

Our new line of V-Series Tie-Back Lanyards simplifies product selection by offering a concise line of standard lanyards that will meet a wide range of customer needs. All new lanyards shown below also meet the latest ANSI standard for tie-back lanyards: ANSI Z359.13. The tie-back shock-absorbing lanyard uses an FP5K carabiner which can be tied directly back to the lanyard. All tie-back lanyards can be easily identified by the icon on the energy absorber's cover.

LANYARDS		SNAPHOOKS		
Tie-back single-leg	Tie-back twin-leg	36C	36CL	FP5K

| PART NO. | Harness Connection | Anchorage Connection | Type | | Length | Standards | | |
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11	OSHA
10193560	36C	FP5K	■		6'	■		■
10193941	36C	FP5K		■	6'	■		■
10193943	36C	FP5K	■		6'		■	
10193944	36C	FP5K		■	6'		■	

V-SERIES® Utility Energy-Absorbing Lanyards

The V-SERIES Utility Lanyards have a shock absorbing cover to support increased product life by protecting labels and shock absorber. Additionally, the easy to identify arc flash symbol on the cover helps to make product selection simple.

LANYARDS	
Web single-leg with small snaphook	Web single-leg with large snaphook

| PART NO. | Type | | Snaphooks | | Length | Standards | | |
	Single-Leg	Twin-Leg	Harness Connection	Anchorage Connection		ANSI Z359.13	OSHA	CSA Z259.11-17
10199061	■		Hitch loop	36C	6'	■	■	
10199062		■	Hitch loop	(2) 36C	6'	■	■	
10199064		■	Hitch loop	(2) 36CL	6'	■	■	
10199057	■		Hitch loop	36C	6'			■
10199058		■	Hitch loop	(2) 36C	6'			■
10199060		■	Hitch loop	(2) 36CL	6'			■
10199058		■	Hitch loop	(2) 36C	6'			■

Connecting Devices: Energy-Absorbing Lanyards

V-SERIES® Welding Energy-Absorbing Lanyards

Specially designed for high-heat applications, V-SERIES Welding Energy-Absorbing Lanyards feature a kevlar/nomex cover to support increased product life by protecting labels and energy absorber. Additionally, the easy to identify high-heat symbol on the cover helps make product selection simple.

LANYARDS		
Cable single-leg with small snaphook	Cable single-leg with large snaphook	Cable twin-leg with small snaphooks

LANYARDS		
Web single-leg with small snaphook	Web single-leg with large snaphook	Web twin-leg with large snaphooks

	Type				Snaphooks			Standards		
PART NO.	Single-Leg Cable	Twin-Leg Cable	Single-Leg Web	Twin-Leg Web	Harness Connection	Anchorage Connection	Length	ANSI Z359.13	OSHA	CSA Z 259.11-17
10199011	■				36C	36C	6'	■	■	
10199016	■				36C	36CL	6'	■	■	
10199013		■			36C	(2) 36C	6'	■	■	
10199053			■		36C	36C	6'	■	■	
10199055			■		36C	36CL	6'	■	■	
10199056				■	36C	(2) 36CL	6'	■	■	
10199012			■		36C	36C	6'			■
10199052				■	36C	(2) 36CL	6'			■

Connecting Devices: Energy-Absorbing Lanyards

V-SERIES® Anti-Corrosion Lanyards

The V-SERIES line of anti-corrosion safety lanyards uses a special urethane coating to resist stains, and wear and tear that are common when working in tough and dirty envirtoments. The easy to identify anti-corrosion symbol on the shock absorbing lanyard cover helps to make product selection simple.

LANYARDS			
Anti-corrosion single-leg with small snaphook	**Anti-corrosion single-leg with large snaphook**	**Anti-corrosion twin-leg with small snaphooks**	**Anti-corrosion twin-leg with large snaphooks**

PART NO.	Snaphooks	Snaphook Material	Type		Length	Standards	
			Single-Leg	**Twin-Leg**		**ANSI Z359.3-2017**	**CSA Z259.11-17**
10206832	SM	Steel	■		6'	■	
10206833	LG	Steel	■		6'	■	
10206834	SM	Stainless Steel	■		6'	■	
10206835	SM	Steel	■		6'		■
10206836	LG	Steel	■		6'		■
10206837	SM	Stainless Steel	■		6'		■
10207240	SM	Steel		■	6'	■	
10207251	LG	Steel		■	6'	■	
10207252	SM	Stainless Steel		■	6'	■	
10207253	SM	Steel		■	6'		■
10207254	LG	Steel		■	6'		■
10207255	SM	Stainless Steel		■	6'		■

Connecting Devices: Energy-Absorbing Lanyards

V-SERIES® Leading Edge Safety Lanyards

The V-SERIES line of leading edge safety lanyards has been tested over a .005" radius steel edge—providing a shock-absorbing lanyard option for leading edge work. The easy to identify Leading Edge symbol on the shock absorbing cover helps to make identifying lanyard type and application easier. Additionally, the swiveling snaphooks keep your lanyard lifeline from twisting as you work, so you can spend less time adjusting your PPE and more time focused on the job.

LANYARDS			
Leading Edge single-leg with large swivel snaphook	Leading Edge twin-leg with large swivel snaphooks	Leading Edge single-leg with smal snaphooks	Leading Edge single-leg with small snaphooks

PART NO.	Snaphooks	Snaphook Material	Type		Standards	
			Single-Leg	Twin-Leg	ANSI Z359.3-2017	OSHA
10213785	LG Swivel	Aluminum	■		■	■
10213786	LG Swivel	Aluminum		■	■	■
10213787	SM	Aluminum	■		■	■
10213788	SM	Aluminum		■	■	■
10220700	SM Swivel	Steel	■		■	■
10220701	SM Swivel	Steel		■	■	■

V-SERIES® Restraint Lanyards

Restraint lanyards are primarily used for travel restriction (to restrain a worker from reaching a fall hazard) and work positioning (stabilizing a worker at an elevated location) applications. The V-SERIES line of restraint lanyards offers lengths ranging from 3–10 feet for a variety of applications. Restraint lanyards come in both fixed length and adjustable options.

LANYARDS			
Cable fixed length with 36C snaphooks	**Standard tieback with FP5K snaphook**	**Standard adjustable length with 36C snaphooks**	**Standard adjustable length with 36L snaphook**

| PART NO. | Type | | | | | | | Length | Standards | |
	Standard	Cable	Welding	Tieback	Fixed	Adjustable	Hardware		ANSI Z359.13	OSHA
10199017		■			■		36C/36C	3'	■	■
10199018		■			■		36C/36C	5'	■	■
10199019		■			■		36C/36C	6'	■	■
10201353		■	■		■		36C/36C	6'	■	■
10201452				■		■	36C/FP5K	6'	■	■
10201453	■					■	36C/36C	10'	■	■
10201454	■					■	36C/36C	3'	■	■
10201455	■					■	36C/36CL	6'	■	■
10201456	■					■	36C/36C	6'	■	■
10201457	■					■	36C/36CL	8'	■	■

Work Positioning Assemblies

WORK POSITIONING REBAR ASSEMBLIES			SNAPHOOKS	
Rebar chain assembly	**Rebar web assembly**	**Rebar web assembly**	**36C**	**36CL**

| PART NO. | Description | Standards | | |
		ANSI Z359.13	CSA Z259.11	OSHA
10108720	Rebar chain assembly, straight link, 36CS swivel snaphooks	■		■
10107326	Rebar chain assembly, 36CL snaphook with 2.5″ (57mm) gate			■
10129553	Rebar web assembly, 18″ legs, with sliding large snaphook			■
10203184	Rebar web assembly, 13″ legs, with sliding large snaphook		■	■

Sure-Grab™ Positioning Lanyard

Connects to the user's harness or belt for travel restriction or work positioning applications. Features fast and easy length adjustment. Meets applicable OSHA regulations.

| PART NO. | Description | Standards |
		OSHA
SNYR537DH306	Sure-Grab positioning lanyard, manual, closed body, c/w 5/8″ x 6′ blue, chrome locking swivel snaphook, right-handed version	■
SNYL537DH306	Sure-Grab positioning lanyard, manual, closed body, c/w 5/8″ x 6′ blue, chrome locking swivel snaphook, left-handed version	■

SURE-GRAB POSITIONING LANYARD
Right-hand version

Connecting Devices: Self-Retracting Devices

V-TEC® Mini Personal Fall Limiters (PFLs)

- Compact and lightweight
- Fall arrest and restraint for users up to 400 lb. (181 kg) including tools. Note that both ANSI and CSA allow 130–310 lb. (60–140 kg). For OSHA, we have tested and allow 100–400 lb. (45–180 kg).
- Highly durable polycarbonate clear casing allows for easy visual inspection of critical internal components
- Withstands temperatures ranging from -40° to +130°F (-40° to +54°C)
- Tested to these relevant standards: ANSI Z359.14-2021 Class 1; OSHA 1910.140; OSHA 1926.502

- **Assured safety:** optimized design utilizing durable lightweight materials to improve weight and comfort
- **Full range of motion:** fully rotating attachment point for complete flexibility—both 360° and 180°
- **Superior materials:** components manufactured from high-grade stainless steel and engineered plastics
- **Clear housing:** polycarbonate case houses SRL; transparency allows for easy visual inspection of critical internal components

V-TEC MINI PFL TYPES				
Single-leg, Web	**Twin-leg, Web**	**Single-leg tie-back, Web**	**Twin-leg tie-back, Web**	**Single-leg, Cable**

Available Connectors

V-TEC PFL offers an aluminum top carabiner and a variety of available connectors.

CONNECTORS								
AL36CL	**AL36CLS**	**36C**	**ALTAKS** Aluminum Triple Action Carabiner, Non-Indicator Swivel	**ALTAK** Aluminum Triple Action Carabiner	**36CS** Non-Indicator Swivel	**36CL**	**FP5K** Tie-back only	**TLALTAK** Twin-Link Aluminum Triple Action Carabiner

Connecting Devices: Self-Retracting Devices

Part Number	Type			Line Length	Line Type		Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-leg	Tie-back		Web	Cable			OSHA	ANSI	CSA
VTOHW-011-DA-A	■			6 ft. (1.8 m)	■		AL36CL	ALTAK	■	■	
VTOHW-011-DB-A	■			6 ft. (1.8 m)	■		36C	ALTAK	■	■	
VTOHW-011-DC-A	■			6 ft. (1.8 m)	■		ALTAKS	ALTAK	■	■	
VTOHW-011-DD-A	■			6 ft. (1.8 m)	■		ALTAK	ALTAK	■	■	
VTOHW-011-DE-A	■			6 ft. (1.8 m)	■		36CS	ALTAK	■	■	
VTOHW-011-DF-A	■			6 ft. (1.8 m)	■		36CL	ALTAK	■	■	
VTOHW-011-ZA-A	■			6 ft. (1.8 m)	■		AL36CL	None	■	■	
VTOHW-011-ZB-A	■			6 ft. (1.8 m)	■		36C	None	■	■	
VTOHW-011-ZC-A	■			6 ft. (1.8 m)	■		ALTAKS	None	■	■	
VTOHW-011-ZD-A	■			6 ft. (1.8 m)	■		ALTAK	None	■	■	
VTOHW-011-ZE-A	■			6 ft. (1.8 m)	■		36CS	None	■	■	
VTOHW-011-ZF-A	■			6 ft. (1.8 m)	■		36CL	None	■	■	
VTOHW-012-RA-A		■		6 ft. (1.8 m)	■		AL36CL	TLALTAK	■	■	
VTOHW-012-RB-A		■		6 ft. (1.8 m)	■		36C	TLALTAK	■	■	
VTOHW-012-RC-A		■		6 ft. (1.8 m)	■		ALTAKS	TLALTAK	■	■	
VTOHW-012-RD-A		■		6 ft. (1.8 m)	■		ALTAK	TLALTAK	■	■	
VTOHW-012-RE-A		■		6 ft. (1.8 m)	■		36CS	TLALTAK	■	■	
VTOHW-012-RF-A		■		6 ft. (1.8 m)	■		36CL	TLALTAK	■	■	
VTOHW-011-DJ-O-TB	■		■	6 ft. (1.8 m)	■		FP5K	ALTAK	■	■	
VTOHW-012-RJ-O-TB		■	■	6 ft. (1.8 m)	■		FP5K	TLALTAK	■	■	
VTOHG-031-DE-A	■			10 ft. (3 m)		■	36CS	ALTAK	■	■	
VTOHG-031-DM-A	■			10 ft. (3 m)		■	36CLS	ALTAK	■	■	
VTOHG-031-DC-A	■			10 ft. (3 m)		■	ALTAKS	ALTAK	■	■	
VTOHG-031-ZC-A	■			10 ft. (3 m)		■	ALTAKS	None	■	■	
VTOHG-031-ZE-A	■			10 ft. (3 m)		■	36CS	None	■	■	
VTOHG-031-ZM-A	■			10 ft. (3 m)		■	36CLS	None	■	■	
VTOHG-031-DE-C	■			10 ft. (3 m)		■	36CS	ALTAK			■
VTOHG-031-DM-C	■			10 ft. (3 m)		■	36CLS	ALTAK			■
VTOHG-031-DC-C	■			10 ft. (3 m)		■	ALTAKS	ALTAK			■
VTOHG-031-ZC-C	■			10 ft. (3 m)		■	ALTAKS	None			■
VTOHG-031-ZE-C	■			10 ft. (3 m)		■	36CS	None			■
VTOHG-031-ZM-C	■			10 ft. (3 m)		■	36CLS	None			■

V-TEC Twin-Link Connector	
Part Number	Description
63900-04	Twin-Link Connector for V-TEC PFL

Connecting Devices: Self-Retracting Devices

V-TEC® Self-Retracting Lanyards (SRLs)

With premium components and innovative engineering, the V-TEC SRL offers controlled cable retraction—preventing excessive lifeline retraction speed and protecting internal parts from damage.

- Clear outer casing for easy inspection
- Carry handle included
- Spring radial energy-absorbing technology requires zero calibration or adjustment
- Stainless steel/engineered plastics
- Retraction dampening features controls the cable speed to <3m/s
- Completely field serviceable

V-TEC SRL

Cable

PART NO.	Type		Length	Standards	
	Galvanized Cable	Stainless Steel Cable		ANSI	CSA
63206-00A	■		20 ft. (6 m)	■	
63306-00A		■	20 ft. (6 m)	■	
63206-00ACA	■		20 ft. (6 m)		■
63306-00ACA		■	20 ft. (6 m)		■
63210-00A	■		30 ft. (10 m)	■	
63310-00A		■	30 ft. (10 m)	■	
63310-00ACA		■	30 ft. (10 m)		■
63215-00A	■		50 ft. (15 m)	■	
63315-00A		■	50 ft. (15 m)	■	
63315-00ACA		■	50 ft. (15 m)		■
63330-00A	■		100 ft. (30 m)	■	
63230-00A		■	100 ft. (30 m)	■	
63330-00ACA	■		100 ft. (30 m)		■
63230-00ACA		■	100 ft. (30 m)		■

Connecting Devices: Self-Retracting Devices

V-SHOCK® Self-Retracting Devices

NEW!

Color Coding & Iconography
Make product selection quick and easy

Green Housing
(Leading Edge)

Leading Edge Icon

Gray Housing
(Non-Leading Edge)

Non-Leading Edge Icon

Dashboard Labels
Deliver critical information at a glance

MSA V-SHOCK® EDGE PFL 6 ft / 1.8 m

ANSI: 310 lb. / 141 kg
OSHA: 310 lb. / 141 kg

Leading Edge Label

MSA V-SHOCK® PFL 6 ft / 1.8 m

ANSI: 310 lb. / 141 kg
OSHA: 400 lb. / 181 kg
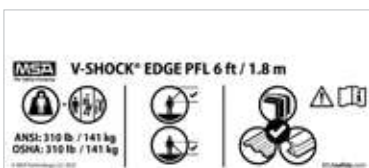
Non-Leading Edge Label

Clearance Charts
Designed for ease of understanding

Leading Edge Clearance Chart

Non-Leading Edge Clearance Chart
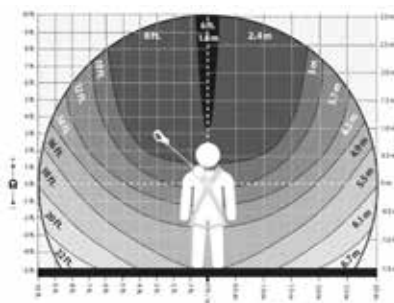
Performance Specifications	
STANDARDS & CAPACITY*	
ANSI Z359.14	130-310 lb. (60-141 kg)
OSHA 1926.502	100-400 lb. (45-181 kg)
ARREST FORCES	
PEAK	1,029 lb. (470 kg)
AVERAGE	800 lb. (366 kg)

* Both Non-Leading Edge and Lead Edge PFLs should only be utilized for overhead applications for weights between 310 lb. (141 kg) and 400 lb. (181 kg).

V-SHOCK PFLs

Leading Edge PFL

Non-Leading Edge PFL

Leading Edge and Non-Leading Edge

Connecting Devices: Self-Retracting Devices

V-SHOCK® Non-Leading Edge PFLs

V-SHOCK NON-LEADING EDGE PFL TYPES			
Single-leg	**Twin-leg**	**Single-leg tie-back**	**Twin-leg tie-back**

V-SHOCK 6 ft. (1.8 m) Non-Leading Edge Web PFL — ANSI			
Part Number	*Type*	*Single/Twin*	*Snaphook*
VSOHW-011-NB-A	V-SHOCK	Single	36C
VSOHW-011-NE-A	V-SHOCK	Single	36CS
VSOHW-011-NF-A	V-SHOCK	Single	36CL
VSOHW-011-NG-A	V-SHOCK	Single	AL36C
VSOHW-011-NA-A	V-SHOCK	Single	AL36CL
VSOHW-011-NH-A	V-SHOCK	Single	AL36CLS
VSOHW-011-NC-A	V-SHOCK	Single	ALTAKS
VSOHW-011-NJ-O-TB	V-SHOCK Tie-Back	Single	FP5K
VSOHW-012-QB-A	V-SHOCK	Twin	36C
VSOHW-012-QE-A	V-SHOCK	Twin	36CS
VSOHW-012-QF-A	V-SHOCK	Twin	36CL
VSOHW-012-QA-A	V-SHOCK	Twin	AL36CL
VSOHW-012-QH-A	V-SHOCK	Twin	AL36CLS
VSOHW-012-QC-A	V-SHOCK	Twin	ALTAKS
VSOHW-012-QJ-O-TB	V-SHOCK Tie-Back	Twin	FP5K

V-SHOCK 6 ft. (1.8 m) Non-Leading Edge Web PFL — CSA			
Part Number	*Type*	*Single/Twin*	*Snaphook*
VSOHW-011-NA-C	V-SHOCK	Single	AL36CL-C
VSOHW-011-NB-C	V-SHOCK	Single	36C-C
VSOHW-011-NC-C	V-SHOCK	Single	ALTAKS-C
VSOHW-011-NE-C	V-SHOCK	Single	36CS-C
VSOHW-011-NH-C	V-SHOCK	Single	AL36CLS-C
VSOHW-011-NM-C	V-SHOCK	Single	36CLS-C
VSOHW-012-QA-C	V-SHOCK	Twin	AL36CL-C
VSOHW-012-QB-C	V-SHOCK	Twin	36C-C
VSOHW-012-QC-C	V-SHOCK	Twin	ALTAKS-C
VSOHW-012-QE-C	V-SHOCK	Twin	36CS-C
VSOHW-012-QH-C	V-SHOCK	Twin	AL36CLS-C
VSOHW-012-QM-C	V-SHOCK	Twin	36CLS-C

V-SHOCK 8 ft. (2.5 m) Non-Leading Edge Web PFL — CSA			
Part Number	*Type*	*Single/Twin*	*Snaphook*
VSOHW-021-NA-C	V-SHOCK	Single	AL36CL-C
VSOHW-021-NB-C	V-SHOCK	Single	36C-C
VSOHW-021-NC-C	V-SHOCK	Single	ALTAKS-C
VSOHW-021-NE-C	V-SHOCK	Single	36CS-C
VSOHW-021-NG-C	V-SHOCK	Single	AL36C-C
VSOHW-021-NM-C	V-SHOCK	Single	36CLS-C
VSOHW-022-QA-C	V-SHOCK	Twin	AL36CL-C
VSOHW-022-QE-C	V-SHOCK	Twin	36CS-C
VSOHW-022-QH-C	V-SHOCK	Twin	AL36CLS-C
VSOHW-022-QM-C	V-SHOCK	Twin	36CLS-C

V-SHOCK 10 ft. (3 m) Non-Leading Edge Web PFL — ANSI			
Part Number	*Type*	*Single/Twin*	*Snaphook*
VSOHW-031-NB-A	V-SHOCK	Single	36C
VSOHW-031-NE-A	V-SHOCK	Single	36CS
VSOHW-031-NF-A	V-SHOCK	Single	36CL
VSOHW-031-NG-A	V-SHOCK	Single	AL36C
VSOHW-031-NA-A	V-SHOCK	Single	AL36CL
VSOHW-031-NC-A	V-SHOCK	Single	ALTAKS
VSOHW-031-NJ-O-TB	V-SHOCK Tie-Back	Single	FP5K
VSOHW-032-QE-A	V-SHOCK	Twin	36CS
VSOHW-032-QF-A	V-SHOCK	Twin	36CL
VSOHW-032-QA-A	V-SHOCK	Twin	AL36CL
VSOHW-032-QH-A	V-SHOCK	Twin	AL36CLS
VSOHW-032-QJ-O-TB	V-SHOCK Tie-Back	Twin	FP5K

Connecting Devices: Self-Retracting Devices

V-SHOCK® Edge Leading Edge PFLs

V-SHOCK LEADING EDGE PFL TYPES			
Single-leg	Twin-leg	Single-leg tie-back	Twin-leg tie-back

V-SHOCK Edge 6 ft. (1.8 m) Leading Edge Web PFL — ANSI			
Part Number	Type	Single/Twin	Snaphook
VSLEW-011-PB-A	V-SHOCK Edge	Single	36C
VSLEW-011-PE-A	V-SHOCK Edge	Single	36CS
VSLEW-011-PF-A	V-SHOCK Edge	Single	36CL
VSLEW-011-PA-A	V-SHOCK Edge	Single	AL36CL
VSLEW-011-PJ-A-TB	V-SHOCK Edge Tie-Back Edge	Single	FP5K
VSLEW-012-PB-A	V-SHOCK Edge	Twin	36C
VSLEW-012-PE-A	V-SHOCK Edge	Twin	36CS
VSLEW-012-PF-A	V-SHOCK Edge	Twin	36CL
VSLEW-012-PA-A	V-SHOCK Edge	Twin	AL36CL
VSLEW-012-PH-A	V-SHOCK Edge	Twin	AL36CLS
VSLEW-012-PC-A	V-SHOCK Edge	Twin	ALTAKS
VSLEW-012-PJ-A-TB	V-SHOCK Edge Tie-Back Edge	Twin	FP5K

V-SHOCK Edge 6 ft. (1.8 m) Leading Edge Web PFL — CSA			
Part Number	Type	Single/Twin	Snaphook
VSLEW-011-PM-C	V-SHOCK Edge	Single	36CLS-C
VSLEW-011-PE-C	V-SHOCK Edge	Single	36CS-C
VSLEW-011-PA-C	V-SHOCK Edge	Single	AL36CL-C
VSLEW-012-PM-C	V-SHOCK Edge	Twin	36CLS-C
VSLEW-012-PE-C	V-SHOCK Edge	Twin	36CS-C
VSLEW-012-PA-C	V-SHOCK Edge	Twin	AL36CL-C
VSLEW-012-PH-C	V-SHOCK Edge	Twin	AL36CLS-C
VSLEW-012-PC-C	V-SHOCK Edge	Twin	ALTAKS-C

V-SHOCK Edge 8 ft. (2.5 m) Leading Edge Web PFL — CSA			
Part Number	Type	Single/Twin	Snaphook
VSLEW-021-PA-C	V-SHOCK Edge	Single	AL36CL-C
VSLEW-021-PE-C	V-SHOCK Edge	Single	36CS-C
VSLEW-021-PM-C	V-SHOCK Edge	Single	36CLS-C
VSLEW-022-PE-C	V-SHOCK Edge	Twin	36CS-C
VSLEW-022-PA-C	V-SHOCK Edge	Twin	AL36CL-C
VSLEW-022-PH-C	V-SHOCK Edge	Twin	AL36CLS-C
VSLEW-022-PM-C	V-SHOCK Edge	Twin	36CLS-C

V-SHOCK Edge 10 ft. (3 m) Leading Edge Web PFL — ANSI			
Part Number	Type	Single/Twin	Snaphook
VSLEW-031-PB-A	V-SHOCK Edge	Single	36C
VSLEW-031-PE-A	V-SHOCK Edge	Single	36CS
VSLEW-031-PF-A	V-SHOCK Edge	Single	36CL
VSLEW-031-PA-A	V-SHOCK Edge	Single	AL36CL
VSLEW-031-PJ-A-TB	V-SHOCK Edge Tie-Back Edge	Single	FP5K
VSLEW-032-PB-A	V-SHOCK Edge	Twin	36C
VSLEW-032-PE-A	V-SHOCK Edge	Twin	36CS
VSLEW-032-PF-A	V-SHOCK Edge	Twin	36CL
VSLEW-032-PA-A	V-SHOCK Edge	Twin	AL36CL
VSLEW-032-PH-A	V-SHOCK Edge	Twin	AL36CLS
VSLEW-032-PJ-A-TB	V-SHOCK Edge Tie-Back Edge	Twin	FP5K

Connecting Devices: Self-Retracting Devices

V-SHOCK® Leading Edge SRLs

V-SHOCK LEADING EDGE SRLs

V-SHOCK Edge Leading Edge Galvanized Steel Cable SRL — ANSI

Part Number	Type	Length	Snaphook
VSLEG-061-NE-A	V-SHOCK Edge	20 ft. (6 m)	36CS
VSLEG-101-NE-A	V-SHOCK Edge	30 ft. (10 m)	36CS
VSLEG-151-NE-A	V-SHOCK Edge	50 ft. (15 m)	36CS

V-SHOCK Edge Leading Edge Galvanized Steel Cable SRL — CSA

Part Number	Type	Length	Snaphook
VSLEG-061-NE-C	V-SHOCK Edge	20 ft. (6 m)	36CS-C
VSLEG-101-NE-C	V-SHOCK Edge	30 ft. (10 m)	36CS-C
VSLEG-151-NE-C	V-SHOCK Edge	50 ft. (15 m)	36CS-C

Snap Hooks & Top Connectors

Snaphooks	
36C	36CS
36CL	AL36C
AL36CL	AL36CLS
ALTAKS	FP5K
Top Connectors	
Carabiner	Twin Link Clip
Locking Pin Connector	

Performance Specifications	
STANDARDS & CAPACITY*	
ANSI Z359.14-2021	130-310 lb. (60-141 kg)
OSHA 1926.502	100-400 lb. (45-181 kg)
CSA Z259.2.2-17	130-310 lb. (60-141 kg)
MAXIMUM ARREST FORCES**	
PEAK	1,029 lb. (470 kg)
AVERAGE	800 lb. (366 kg)

* Both Non-Leading Edge and Lead Edge PFLs should only be utilized for overhead applications for weights between 310 lb. (141 kg) and 400 lb. (181 kg).

** For more information please refer to the Fall Clearance Charts included with your product.

Connecting Devices: Self-Retracting Devices

V-EDGE® Web Leading Edge Personal Fall Limiters (PFLs)

MSA's patent-pending V-EDGE Web PFL provides a light weight solution for ANSI Z359.14-2014 Leading Edge Requirements.

- *Simplified selection*—the V-EDGE PFL can be used in a variety of applications where sharp edge hazards are a concern.

- *Reduce Fatigue*—Using web for the lifeline,the V-EDGE PFL weighs on average, 15% less than similar cable units—providing a light-weight option for leading edge applications..

- *Easy to connect*—Get to work faster. Save time and frustration with a sleek and simple locking pin attachment.*

* patent pending

V-EDGE PFL TYPES	
Single-leg	Twin-leg

PART NO.	Type			Line Length	Line Type	Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-leg	Tie-back					ANSI	OSHA	CSA
10192006	■			8 ft. (2.4 m)	Web	AL36CL Snaphook	Locking Pin	■	■	
10192039	■			8 ft. (2.4 m)	Web	36CS Snaphook	Locking Pin	■	■	
10192048	■			8 ft. (2.4 m)	Web	36CL Snaphook	Locking Pin	■	■	
10192007	■			8 ft. (2.4 m)	Web	AL36CL Snaphook	Locking Pin			■
10192040	■			8 ft. (2.4 m)	Web	36CS Snaphook	Locking Pin			■
10192049	■			8 ft. (2.4 m)	Web	36CL Snaphook	Locking Pin			■
10192009		■		8 ft. (2.4 m)	Web	AL36CL Snaphook (2)	Locking Pin	■	■	
10192042		■		8 ft. (2.4 m)	Web	36CS Snaphook (2)	Locking Pin	■	■	
10192051		■		8 ft. (2.4 m)	Web	36CL Snaphook (2)	Locking Pin	■	■	
10192010		■		8 ft. (2.4 m)	Web	AL36CL Snaphook (2)	Locking Pin			■
10192043		■		8 ft. (2.4 m)	Web	36CS Snaphook (2)	Locking Pin			■
10192052		■		8 ft. (2.4 m)	Web	36CL Snaphook (2)	Locking Pin			■
10192519	■		■	9 ft. (2.9 m)	Web	FP5K Snaphook	Locking Pin	■	■	
10192516		■	■	9 ft. (2.9 m)	Web	FP5K Snaphook (2)	Locking Pin	■	■	

Connecting Devices: Self-Retracting Devices

V-EDGE® Cable Leading Edge Personal Fall Limiters (PFLs)

Specifically engineered and tested for use at foot-level tie-off, the V-EDGE PFL meets ANSI Z359.14-2014 Leading Edge requirements.

- *Simplified selection*—the V-EDGE PFL can be used in a variety of applications where sharp edge hazards are a concern.

- *Move easier*—Reduce potential snag hazards with the lowest-profile housing on the market.

- *Easy to connect*—Get to work faster. Save time and frustration with a sleek and simple locking pin attachment.

- *Lower cost of ownership*—With a stainless steel housing and protective cover for the energy absorber, the V-EDGE PFL is built to fight the toughest elements, saving you time and money on product replacements.

V-EDGE PFL TYPES

Single-leg   Twin-leg

PART NO.	Type Single-leg	Twin-leg	Line Length	Line Type	Anchorage Connection	Harness Connection	Standards ANSI	OSHA
63062-00A	■		8 ft. (2.4 m)	Cable	AL36CL Snaphook	Locking Pin	■	■
63062-00E	■		8 ft. (2.4 m)	Cable	36CS Snaphook	Locking Pin	■	■
63062-00F	■		8 ft. (2.4 m)	Cable	36CL Snaphook	Locking Pin	■	■
63062-00ACA	■		8 ft. (2.4 m)	Cable	AL36CL Snaphook	Locking Pin	■	■
63062-00ECA	■		8 ft. (2.4 m)	Cable	36CS Snaphook	Locking Pin	■	■
63062-00FCA	■		8 ft. (2.4 m)	Cable	36CL Snaphook	Locking Pin	■	■
63162-00A		■	8 ft. (2.4 m)	Cable	AL36CL Snaphook (2)	Locking Pin	■	■
63162-00E		■	8 ft. (2.4 m)	Cable	36CS Snaphook (2)	Locking Pin	■	■
63162-00F		■	8 ft. (2.4 m)	Cable	36CL Snaphook (2)	Locking Pin	■	■
63162-00ACA		■	8 ft. (2.4 m)	Cable	AL36CL Snaphook (2)	Locking Pin	■	■
63162-00ECA		■	8 ft. (2.4 m)	Cable	36CS Snaphook (2)	Locking Pin	■	■
63162-00FCA		■	8 ft. (2.4 m)	Cable	36CL Snaphook (2)	Locking Pin	■	■

V-EDGE® Leading Edge Self-Retracting Lanyards (SRLs)

Specifically engineered and tested for use at foot-level tie-off, the V-EDGE SRL meets ANSI Z359.14-2014 Leading Edge requirements.

- *Simplified selection*—the V-EDGE PFL can be used in a variety of applications where sharp edge hazards are a concern.

- *Get to work faster*—Clear outer casing allows for quick visual inspection of internal components

- *Lower cost of ownership*—Integrated roll cage protects housing when used in foot-level tie off. Retraction dampening feature controls the life line speed, preventing unwanted damage and maximizing product life.

- *Reduce downtime*—Internal components like the cable and energy absorber can be replaced on site, reducing repair times.

V-EDGE SRL

Cable

PART NO.	Line Length	Line Type	Anchorage Connection	Harness Connection	Standards OSHA	ANSI	CSA
63406-00A	20 ft. (6 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63410-00A	30 ft. (10 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63415-00A	50 ft. (15 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63406-00ACA	20 ft. (6 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■
63410-00ACA	30 ft. (10 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■
63415-00ACA	50 ft. (15 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■

Connecting Devices: Self-Retracting Devices

V-TEC® io1

The MSA V-TEC io1 is a new Fall Protection product, specifically designed for lift work in warehouses and fulfillment centers. Its smart features help to improve worker safety and compliance when working at heights.

1. Real Time Compliance

The V-TEC io1's seat-belt alarm style system helps to improve safety compliance rates by continuing to sound, until workers are connected in the lift. It beeps upon waking up every time-reminding workers to connect their PPE right away. Additionally, the flashing red lights engage multiple senses so that that the user is made aware of their connection status.

2. Improved Efficiency

By reminding workers to connect to their lift, the V-TEC io1 helps to reduce turnover rates and training costs that may result from a lack of compliance and also allowing Safety Managers to focus on other tasks.

V-TEC io1
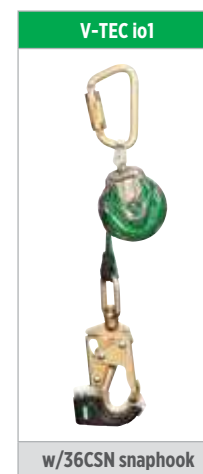
w/36CSN snaphook

PART NO.	Description
10213902	V-TEC io1 PFL, 6 ft., 36CSN snaphook
10216248	V-TEC io1 PFL, 10 ft., 36CSN snaphook

Each V-TEC io1 comes with charging kit, and 1 RFID holder assembly for harness.

V-FORM/V-FORM+ Harnesses, and additional RFID holder assemblies must be ordered separately.

PART NO.	Description
	Replacement Parts
10216578	RFID Holder Assembly, Spare Parts, 5
10216579	RFID Holder Assembly, Spare Parts, 50
10216580	Charging Kit, Replacement, V-TEC io1
10216611	Battery Pack, Portable, Replacement, io1
10216612	Cable, USB, Right Angle Replacement, io1
10216613	Converter, Power, Replacement, io1
10216614	Cable, USB C to USB A, Replacement, io1

Latchways® Arc Flash Personal Fall Limiters (PFLs)

- Suitable for use in work applications where arc flash is present
- Most compact arc-rated personal fall limiter in its class
- Kevlar web lifeline
- 6.5 ft. length
- Spring radial energy-absorption technology
- Aluminum triple-lock carabiner
- High-impact polycarbonate housing
- Clear housing for ease of inspection
- Can be used as twin-leg version using the TwinLink Connector
- User capacity up to 400 lbs.

LATCHWAYS ARC FLASH PFL

Single-Leg

	Standards		
PART NO.	ANSI Z359.14	CSA Z259.2.2	ASTM F887
63032-00N	■		■
63032-00NCA		■	■

CONNECTORS

Aluminum triple-lock carabiner	Twin-link connector
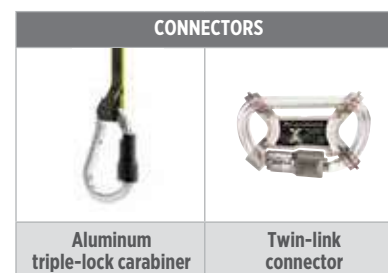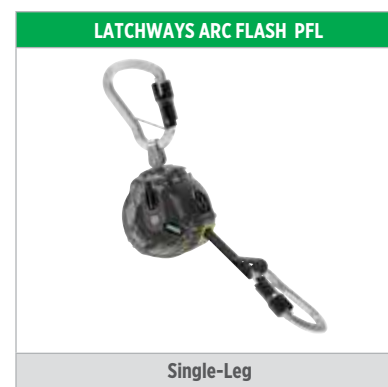
Connecting Devices: Self-Retracting Devices

Latchways® Standard Self-Retracting Lanyards (SRL)

Latchways SRLs offer dependable fall protection and are specifically designed for use within varied environments, enabling unhindered hands-free fall protection solutions.

- Completely field-serviceable
- Frictionless Constant Force® technology braking mechanism
- Impact-resistant toughened case
- Meets and exceeds global industry standards
- 100% Full Contact™ locking mechanism
- 310lbs. (140kg) user capacity (web version)
- 400lbs. (181kg user capacity (cable version)

ANCHORAGE CONNECTOR

Swivel double-locking snaphook

LATCHWAYS STANDARD SRL TYPES

Web   Cable

PART NO.	Part Description	Line Type	Length	Size L x W x D	Weight	Anchorage	Standards
62007-00US	23 ft. (7 m) webbing SRL	1 x 0.094" (25 x 2.4 mm) polyester webbing	23 ft. (7 m)	10.813 x 7.313 x 4.938" (275 x 186 x 125 mm)	8.4 lbs (3.8 kg)	Double-locking snap hook	ANSI Z359.14
62007-00CA	23 ft. (7 m) webbing SRL	1 x 0.094" (25 x 2.4 mm) polyester webbing	23 ft. (7 m)	10.813 x 7.313 x 4.938" (275 x 186 x 125 mm)	8.4 lbs (3.8 kg)	Double-locking snap hook	CSA Z259.2.2

Latchways® Sealed Self-Retracting Lanyards (SRL)

Latchways Sealed SRLs are specifically designed for use within harsh environments such as oil rigs, offshore wind farms and other offshore applications, enabling unhindered hands-free fall protection solutions. They are the world's first completely field-serviceable sealed SRLs.

LATCHWAYS SEALED SRLS

Cable

- Ingress protection (IP69K)
- Meets and exceeds global industry standards
- 100% Full Contact locking mechanism
- ATEX-assessed
- Accelerated corrosion testing
- 310lbs. (140kg) user capacity

- Completely field-serviceable
- Constant Force technology frictionless energy-absorbing mechanism
- Suitable for use within high vibration environments
- Full training and recertification program

PART NO.	Line Type	Length	Size L x W x D	Weight	Anchorage	Standards
62810-00US	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	30 ft (9 m)	10.62 x 9.5 x 7" (270 x 241 x 178 mm)	20.9 lbs (9.5 kg)	Forged/stainless steel snaphook	ANSI Z359.14
62816-00US	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	50 ft (15 m)	13 x 11 x 7.5" (330 x 279 x 191 mm)	26.5 lbs (12 kg)	Forged/stainless steel snaphook	ANSI Z359.14
62826-00US	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	85 ft (26 m)	13 x 13 x 7.88" (330 x 330 x 200 mm)	44.1 lbs (20 kg)	Forged/stainless steel snaphook	ANSI Z359.14
62841-00US	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	130 ft (40 m)	15 x 15 x 8.5" (381 x 381 x 216 mm)	57.3 lbs (26 kg)	Forged/stainless steel snaphook	ANSI Z359.14
62810-00CA	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	30 ft (9 m)	10.62 x 9.5 x 7" (270 x 241 x 178 mm)	20.9 lbs (9.5 kg)	Forged/stainless steel snaphook	CSA Z259.2.2
62816-00CA	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	50 ft (15 m)	13 x 11 x 7.5" (330 x 279 x 191 mm)	26.5 lbs (12 kg)	Forged/stainless steel snaphook	CSA Z259.2.2
62826-00CA	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	85 ft (26 m)	13 x 13 x 7.88" (330 x 330 x 200 mm)	44.1 lbs (20 kg)	Forged/stainless steel snaphook	CSA Z259.2.2
62841-00CA	Ø 0.188" (5 mm) stainless steel cable (7 x 19)	130 ft (40 m)	15 x 15 x 8.5" (381 x 381 x 216 mm)	57.3 lbs (26 kg)	Forged/stainless steel snaphook	CSA Z259.2.2

Carabiners

MSA offers many carabiners for most applications. All carabiners have minimum breaking strength of 5,000 lb.

• 9/16" (14 mm) gate opening • Auto-locking • Steel • ANSI Z, CSA	• 1" (25 mm) gate opening • Auto-locking with pin • Steel • ANSI Z, CSA	• 1" (25 mm) gate opening • Auto-locking • Aluminum	• 1.2" (32 mm) gate opening • Screw-lock • Steel • NFPA	• 1.2" (32 mm) gate opening • Screw-lock • Steel • NFPA	• 2.1" (53 mm) gate opening • Auto-locking with pin • Steel • ANSI Z, CSA
PART NO.	**PART NO.**	**PART NO.**	**PART NO.**	**PART NO.**	**PART NO.**
10089205	**10089207**	**SRCA883**	**SRCC642**	**SRCC641**	**10089209**

Anchorage Connectors: Straps

• Minimum breaking strength of 5,000 lb.
• Compatible for use with MSA fall arrest and confined space entry/retrieval components.

Anchorage Connector Strap	Double D-ring Anchorage Connector Strap	Double D-ring Anchorage Connector Strap
• Standard 5-ft. length; custom lengths available • D-ring on one end, sewn hoop on other end	• Standard 5-ft. length; custom lengths available • Standard D-ring on one end, large D-ring on other end	• Standard lengths of 3-ft., 4-ft. and 6-ft. • Standard D-ring on one end, large D-ring on other end • Integral wear pad
PART NO.	**PART NO.**	**PART NO.**
505282	**10023490**	**SFP2267503** 3-ft. strap **SFP2267504** 4-ft. strap **SFP2267506** 6-ft. strap

Thermatek Anchorage Connector Strap	PointGuard™ Anchorage Connector Strap *Concrete Construction Model*	PointGuard Anchorage Connector Strap *Residential Construction Model*
• Kevlar webbing and stitching • Contrasting colors of webbing and stitching offer easier inspection • Includes replaceable wear pad to protect webbing from abrasion • Heat and burn resistant	• Economical • 400 lbs. (182 kg) capacity • Standard length of 4-ft. • Includes protective sheath • With steel D-ring (also available without D-ring) • Meets all applicable OSHA regulations	• Economical • 400 lbs. (182 kg) capacity • Standard length of 3-ft. • With steel D-ring (also available without D-ring) • Meets all applicable OSHA regulations and ANSI Z359
PART NO.	**PART NO.**	**PART NO.**
10023487	**10042794** Concrete **10094384** Concrete, box of 50	**10042792**

Anchorage Connectors: Slings

Anchorage Cable Sling
- Standard lengths of 4-ft. and 6-ft.; custom lengths available
- Vinyl-coated
- 1/4" galvanized cable

PART NO.	Description
SFP3267504	4-ft. sling
SFP2267506	6-ft. sling

Suretyman™ Anchorage Sling
- 1" nylon tube webbing sewn into continuous loop
- Available in 2-ft., 4-ft. and 6-ft. lengths
- Can be hitched to anchorage point using various configurations

PART NO.	Description
SFP2267402	2-ft. sling
SFP2267404	4-ft. sling
SFP2267406	6-ft. sling

Anchorage Connectors: Extensions

Anchorage Connector Extensions
- Vinyl-coated
- 1/4" galvanized cable

				Standards	
PART NO.	Tie-Off Connection	Anchorage Connection	Length	ANSI Z359	OSHA
10082683	O-ring	36C	12'	■	■
10002182	O-ring	36C	10'	■	■
10008492	O-ring	36C	8'	■	■
10095264	O-ring	36C	6'	■	■
505233	O-ring	36C	5'	■	■
10001609	O-ring	36C	3'	■	■
10087003	O-ring	FP5K	6'	■	■
10073847	O-ring	FP5K	5'	■	■

Anchorage Connectors: Concrete Applications

PointGuard™ Anchorage Connector Strap —
Concrete Construction Model
- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 4 ft.
- Includes protective sheath
- Available with or without steel D-ring
- Meets all applicable OSHA regulations

PART NO.	Description
10042794	Concrete (with D-Ring)

Removable Concrete Anchor
- Lightweight & removable
- Must be drilled in a ¾ inch diameter hole at least 3½ inches deep
- Stainless steel
- Max. capacity: 5,000 lbs./22kN

PART NO.
10242704

Anchorage Connectors: Steel Beam and Rail Applications

Workman® FP Stryder™ Anchorage Connector
- Easy, single-hand installation
- Low friction wear pads with Teflon enable effortless gliding along beam flange
- Lightweight—only 4.5 lbs.!
- Integral load indicator alerts user if unit has been exposed to a fall
- Versatile design: mount overhead or at worker's feet
- Easy to use, push-button adjustment—no pins to lose!
- 400-lb. working capacity

PART NO.	Description
10144431	Standard version
10144432	XL version

D-Plate Anchorage Connector
- Provides permanent anchorage point
- Bolts to beams or columns
- Also available with 8″ x 8″ backplate of black anodized aluminum, galvanized steel or stainless steel for attachment to concrete walls

PART NO.
506632

Bolt D-ring with Hole
- Permanent anchorage connector
- Attaches to bottom of I-beam flange; user supplies bolt
- Designed for horizontal installation

PART NO.
10003213

Rail Slider™
- Provides fall protection during horizontal movement on railway bridges
- Quick and easy installation
- For 80–136-lb. rail
- Other sizes available

PART NO.
SFPRS6000

10242705 *10242707* *10242706*

Steel Swive Anchor
- Flips 180 degrees and rotates 360 degrees for a versatile anchorage point
- Available in several configurations
- Alloy steel
- Max. capacity: 5,000 lbs./22kN

PART NO.	Description
10242705	Steel Swivel Anchor Base 5K
10242707	Steel Swivel Anchor & Puck Assembly 5K
10242706	Steel Swivel Anchor w/ Bolt 5K

Anchorage Connectors: Roofing Applications

Disposable

Permanent

Roof Anchors
- All-steel construction
- Fits all pitches of roof trusses or rafters
- Easy to install without special tools

PART NO.	Description
416068	Disposable
10016468	Permanent

Workman Reusable Roof Anchor
- Fits up to 12 x 12 roof pitch
- Fastens with screws or nails

PART NO.
10102686

PointGuard Anchorage Connector Strap —
Residential Construction Model
- Economical
- 400 lbs. (182 kg) capacity
- Standard length of 3 ft.
- Available with or without steel D-ring
- Meets all applicable OSHA regulations and ANSI Z359.1

PART NO.	Description
10042792	Residential (with D-ring)

Anchorage Connectors: Window Washing Applications

Pushlock™ Fall Protection

When access from inside a building is needed to carry out external work such as window washing, Latchways PushLock delivers a stable, secure solution. With a range of sockets for fixing to brickwork, concrete and steelwork, it can be secured in walls, floors or ceilings. PushLock provides an internal fixed anchor to which workers can attach a lanyard and safety harness—allowing them to confidently take on the job.

- Eyebolt requires two-handed operation, making accidental removal impossible
- A variety of colors and finishes available including stainless steel, brass and a range of RAL colors
- Socket and eyebolt both statically tested to 2248 lbs (10 kN)
- Meets all relevant national and international standards

Fall Protection: Connecting Devices

Rope Grabs and Vertical Lifelines

Rope Grabs are designed as a means of fall arrest between a worker wearing a compatible full-body harness and a suitable lifeline system. They are used to arrest the user in a fall from a working height and suspend the user until rescue can be affected.

ROPE GRABS		LIFELINES		
Rope Grab with 30" Sure-Stop Lanyard P/N 415940	SureGrab Trailing Rope Grab P/N 10077718	Lifeline (white) P/N R512539	Lifeline (blue with orange) P/N SRP9200	Lifeline (white with red and green) P/N R512544

	PART NO.	Length	Panic Grab	ANSI Z359.15	CSA Z259.2.5
ROPE GRABS, TRAILING, 5/8"	415940	30"	■	■	
	10077718	30"	■		■

	ANSI Z359.1	CSA Z259.2.5	Length				Base Rope Part No.
			25'	50'	75'	100'	
LIFELINES, 3-STRAND, 5/8"		■	R512539LLC025	R512539LLC050	R512539LLC075	R512539LLC100	R512539
	■		415865	415869	415870	415871	R512539

Base Ropes

Base Ropes	Material	Elongation at 1800 lbs.	Minimum Breaking Strength	Color	Features
R512539	100% polyester	6.66%	7825 lbs.	white	Best UV resistance
R512544	co-polymer core/ polyester outer	4.70%	9,450 lbs.	white w/red and green	Low elongation. No loss of strength when wet. Stores wet.
SRP9200	co-polymer core/ polyester outer	5.25%	7530 lbs.	blue w/orange	Low elongation. No loss of strength when wet. Stores wet.
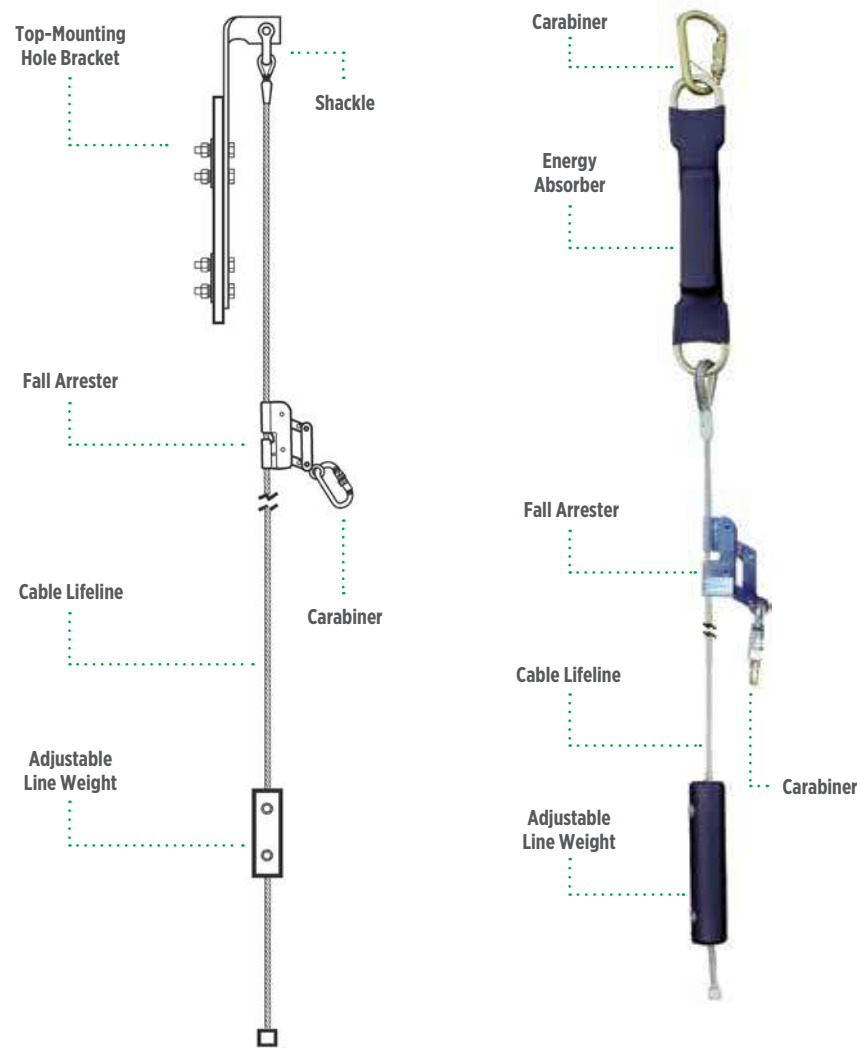
Custom Rope Lengths

Overall Length	Up to 25'	25' – 50'	50' – 100'	over 100'
Increment	1'	5'	10'	25'

Ladder Climbing Equipment: Permanent

SureClimb™ Cable Systems

- Provide fall protection when climbing or descending ladders or vertical structures up to 300 feet
- Uses a stainless steel fall arrester
- Uses a ⁵⁄₁₆" galvanized steel cable

Top-Mounting Hole Bracket

Shackle

Fall Arrester

Cable Lifeline

Carabiner

Adjustable Line Weight

Carabiner

Energy Absorber

Fall Arrester

Cable Lifeline

Carabiner

Adjustable Line Weight

SureClimb Extension Davit and Base Assembly

PART NO.	
10036032	Extension davit and base assembly

SureClimb Slider
- Fall arrester

PART NO.	
10040010	SureClimb Slider w/ carabiner

PRODUCT	SureClimb Temporary Systems
PART NO.	**SFPLS353050** 50' (15 m), with integral shock absorber
	SFPLS353100 100' (30 m), with integral shock absorber
	SFPLS353200 200' (61 m), with integral shock absorber
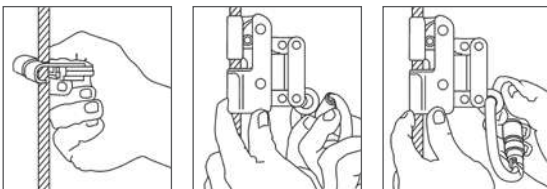
SureClimb Slider can be attached and removed anywhere along the length of cable

Ladder Climbing Equipment: Permanent

Dyna-Glide® Climbing System

- Can be attached to almost any structure that is permissible to climb
- Limits total fall distance to inches
- Components for complete rescue systems
- Allows for vertical and horizontal mobility
- Galvanized or stainless steel for corrosion resistance
- Your choice of ladder/rail combination (LRC) or rail only

- Provides smooth travel—there's no binding of the fall arresters inside the rail
- Detachable, lightweight, stainless steel, and aluminum mechanism for hands-free ascent and descent
- Variety of accessories to enhance mobility and provide continuous protection, convenience, and comfort (if needed)

Ungated End Stop
P/N 506312
(Gated End Stop also available–P/N 506275)

Mounting Assembly
P/N 506387
(2 required for each LRC section)

(Example–exact mounting bracket depends on structure)

Folding Footrest
P/N 506384
(Optional)

LRC
P/N 506390

LRC Side Rail Connector
P/N 506391
(2 required for each LRC section connection)

Unnotched Rail
P/N 506280 *(Optional)*

Notched Rail
P/N 506270

Fall Arrester
P/N 506277 or 10183914

Rail Connector
P/N 506329
(1 required for each section connection)

Gated End Stop
P/N 506275

Front D-Ring of Harness

Carabiner (P/N 506259)
(needed to attach fall arrester to harness)

Pivot Davit
P/N 506357

Rung Mount
P/N 506273

PRODUCT	SureClimb Permanent System	
PART NO.	506270	Straight Notched Rail, galvanized, standard length 7' 4³⁄₁₆"
	506273	Rung Mount Assembly, galvanized
	506277	Fall arrester
	10183914	Fall arrester
	506312	Ungated top end stop, stainless steel
	506329	Rail connector, galvanized
	506388	Ladder/Rail Combination (LRC) standoff bracket, galvanized, standard length 7' 4³⁄₁₆"
	506389	LRC standoff bracket, bottom, galvanized
	506390	LRC, galvanized (CSA Part No. **10006461**)
	506391	LRC side rail connector, galvanized

MSA Stanchion

Steel and Concrete

Features

MSA's steel stanchion allows you to construct your own temporary horizontal lifeline on steel or concrete substrate.

The system is lightweight and portable, and installation is made easier with the unique clamp design. When installing on a beam, only one location is needed for tightening and this can be done by hand—no need for additional wrenches.

Interchangeable stanchion posts enable systems for steel applications to be converted to concrete applications and vice versa to maximize your investment.

Specifications

Standard Base .... Fits 6 in.- to 18 in.-wide flange up to 2¼ thick
Large Base .... Fits 12 in.- to 36 in.-wide flange from 2¼ to 3⅜ in.
Compatible with .... MSA Dyna-Line and Gravity HLLs
Material .... Zinc-plated steel
Weight .... 45–67 lb.
Install Type .... Temporary
Lifeline Material .... Ordered separately
Applications .... Construction, OGP, General Industry, Transportation
Span Type .... Single span
Weight Capacity .... Refer to Temporary Horizontal Lifeline
Standards .... OSHA

stanchion w/ concrete base

stanchion w/ standard base

Compatible MSA HLL Lengths and Configurations

Sure-Line Cable
• 40 ft. / 2-man
• 60 ft. / 1-man

Dyna-Line Rope (Red)
• 60 ft. / 2-man

Concrete Stanchion
• 60 ft. / 2-man—both Sure-Line and Dyna-Line

PART NO.	Description	Beam Flange Width	Beam Flange Thickness	Weight	Product Dimensions (L x W x H)
10192211	Stanchion w/ standard base	6-18"	Up to 2¼"	45 lb.	670 mm x 300 mm x 1,072 mm
10192213	Replacement standard base, include hardware	6-18"	Up to 2¼"	15 lb.	254 mm x 300 mm x 240 mm
10192215	Replacement threaded rod, standard with wing nut, w/Belleville washer	6-18"	Up to 2¼"	10 lb.	670 mm x 32 mm x 138mm
10192216	Replacement threaded rod, large with wing nut	12-36"	2¼" to 3⅜"	20 lb.	1,140 mm x 32 mm x 195 mm
10192217	Stanchion post	N/A	N/A	18 lb.	50 mm x 100 mm x 877 mm
10192218	Stanchion w/ concrete base	N/A	N/A	67 lb.	774 mm x 280 mm x 877 mm
10192219	Set of two tie-back brackets/chains/hardware	N/A	N/A	22 lb.	520 mm x 150 mm x 80 mm
10192220	Replacement concrete base	N/A	N/A	27 lb.	774 mm x 280 mm x 120 mm
10192223	Wing Nut	N/A	N/A	2 lb.	220 mm x 60 mm x 75 mm
10192224	Belleville Washer	N/A	N/A	0.15 lb.	70 mm x 70 mm x 5 mm

Horizontal Lifelines: Temporary

MSA Cable and Rope Temporary Horizontal Lifelines

The completely toolless installation of MSA's THLLs helps to save time and increase efficiency when setting up lifelines on the jobsite.

- Integrated locking and tensioning mechanism on the handle—eliminating the need for nuts, bolts and wrenches.
- Lightweight, flexible cable helps make installation easy to complete by a single worker.
- Locking and tensioning mechanisms are on the same side—no need to travel back and forth for set-up.

- Easy-to-read red and green visual indicators let the user know the system is locked, tensioned and ready for use.
- Patented bypass shuttles help 2 users maintain 100% tie-off—increasing mobility without sacrificing safety.

Energy absorber   Bypass shuttles   Cable wrap   Cable lock   Tension lock nut   Install instructions on handle   Turnbuckle/Tensioner

MSA Cable Temporary Horizontal Lifeline

RFID   Tension Indicator Window

Anchorage strap   Anchorage strap

Release Handle   Tensioner   Bypass shuttles   Energy absorber

MSA Rope Temporary Horizontal Lifeline

RFID
Anchorage strap   Anchorage strap

PRODUCT	MSA **Cable** Horizontal Lifeline System	
PART NO.	10219288	MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 60 ft. with bypass shuttles and anchorage straps
	10219289	MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 60 ft. with bypass shuttles
	10219290	MSA Temporary **Cable** Horizontal Lifeline for 2 Workers, 100 ft. with bypass shuttles
PRODUCT	MSA **Rope** Horizontal Lifeline System	
PART NO.	10219292	MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 60 ft. (18 m) with bypass shuttles and anchorage straps
	10219293	MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 60 ft. (18 m) with bypass shuttles *(Anchorage straps not included)*
	10219294	MSA **Rope** Temporary Horizontal Lifeline for 2 Workers, 100 ft. (30 m) with bypass shuttles *(Anchorage straps not included)*

Easy adjustment (shown on cable version)

Bypass (shown on rope version)

Watch our installation video here:

Horizontal Lifelines: Temporary

Gravity Dyna-Line® Temporary Synthetic Horizontal Lifeline

Designed for easy installation and removal, the Dyna-Line Horizontal Lifeline temporary horizontal lifeline system can be mounted to any suitable 5,000-lb.-rated anchorage point and can be rigged using many standard components, eliminating the need for special or engineered equipment.

- Patented bypass shuttles allow users to pass each other on the same system while maintaining 100% tie-off
- 12-strand red rope does not hockle and minimizes fall distance due to low stretch properties
- Integral line tensioner helps to ensure proper lifeline tensioning before use
- One- or two-worker system

- Shock absorber on two-worker system clearly indicates when system has experienced fall arrest forces and should be removed from service
- Can be rigged using many standard components, reducing the need for special or engineered equipment
- Lengths up to 200 ft.; comes in handy bucket for lengths up to 60 ft.

anchor straps (web)

PRODUCT	Dyna-Line Temporary Horizontal Lifeline System — for two workers
PART NO.	10150413* Dyna-Line Temporary Horizontal Lifeline, 30-ft. rope (9 m)
	10150414* Dyna-Line Temporary Horizontal Lifeline, 60-ft. rope (18 m)
	10150415* Dyna-Line Temporary Horizontal Lifeline, 100-ft. rope (30 m)
PRODUCT	Dyna-Line Temporary Horizontal Lifeline System — for single worker
PART NO.	10013151 Dyna-Line Temporary Horizontal Lifeline, 60-ft. rope (18 m)
PRODUCT	Accessory
PART NO.	10070288 Anchorage straps for 60-ft. 2-worker system, 10-ft (3 m)

Includes anchor straps

Dyna-Line Clearance (ft-in)						
	1-Worker System			2-Worker System		
Line Length	6-ft. Lanyard	Class A SRL	Class B SRL	6-ft. Lanyard	Class A SRL	Class B SRL
10	12-4	5-7	6-7	12-9	5-10	7-2
20	13-6	6-10	8-1	14-8	7-2	8-8
30	14-7	8-1	9-4	15-9	8-7	10-2
40	15-8	9-4	10-6	17-2	10-0	11-8
50	16-11	10-6	11-9	18-5	11-6	13-2
60	18-2	11-9	12-11	19-7	12-11	14-8

Assumes 220-lb. workers with HLL at D-ring level or higher

Gravity Sure-Line Temporary Synthetic Horizontal Lifeline

Designed for quick and easy installation at temporary work sites, the Sure-Line Horizontal Lifeline is suspended between two approved anchor points to provide worker fall protection during horizontal movement. This lightweight system is rated for two people.

PRODUCT	Sure-Line Temporary Synthetic Horizontal Lifeline
PART NO.	10150423 SureLine Temporary Horizontal Lifeline, 40 ft. (12 m) black rope
	10150424 SureLine Temporary Horizontal Lifeline, 60 ft. (18 m) black rope

Sure-Line Synthetic Clearance (ft-in)						
	1-Worker System			2-Worker System		
Line Length	6-ft. Lanyard	Class A SRL	Class B SRL	6-ft. Lanyard	Class A SRL	Class B SRL
10	12-5	5-3	6-10	14-2	6-2	7-2
20	13-8	7-0	8-1	16-9	8-3	9-0
30	15-2	8-2	9-3	18-5	9-11	10-8
40	16-7	9-5	10-5	20-3	11-7	12-4
50	17-11	10-8	11-8	22-1	13-3	14-0
60	19-2	11-10	12-10	23-9	14-10	15-9

Assumes 220-lb. workers with HLL at D-ring level or higher

Rescue Equipment: MSA Latchways® Personal Rescue Device (PRD®)

PRD

- Consists of full-body harness and integral descender device that conforms to all required standards
- Patented components fit neatly into "backpack," which zips onto harness
- Lightweight and unobtrusive
- Withstands harsh working enviroments
- Significantly reduces rescue time
- Lone worker use
- Self-activated
- Intuitive use
- Clear rescue plan
- Improves user safety

PRD Rescue Pole

Designed to be used by a third party. Should the user be unable to conduct a self-rescue, the third party can activate the Latchways PRD's built-in secondary descent release mechanism. The overall length of the pole is 2.7 ft (0.8 m) when retracted and 11.1 ft (3.4 m) when extended.

PRD WITH EVOTECH® HARNESSES	PRD RESCUE POLE

PRD	Harness Type	Size		Line Length	Standards		
PART NO.	EVOTECH	STD	XLG		ANSI Z359	CSA Z259	OSHA
10176307	■	■		65 ft.	■	■	■
10176308	■		■	65 ft.	■	■	■

PART NO.	Description
68099-00	PRD Rescue Pole

Rescue Equipment: Anthron Descent Device System
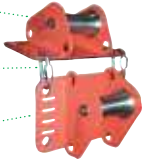
- Manually operated, controlled descent device used for suspended work positioning, self-evacuation, or rescue operations
- Cam assembly provides friction on rope to hold load or allow load to descend at controlled rate
- System consists of $\frac{7}{16}$" (11 mm) rope, Anthron Descender and two carabiners
- Device can be installed/removed at any point on the rope
- Proper roping/rigging diagrams on side of Anthron Descender
- Working load of 440 lbs. (200 kg)
- System consists of a $\frac{7}{16}$" (11 mm) rope, Anthron Descender, and 2 carabiners

ANTHRON DESCENDER

ANTHRON DESCENT DEVICE SYSTEM	SDC726050	System includes: Anthron Descender, 2 carabiners, 50' $\frac{7}{16}$" (11 mm) rope
	SDC726100	System includes: Anthron Descender, 2 carabiners, 100' $\frac{7}{16}$" (11mm) rope
	SDC726150	System includes: Anthron Descender, 2 carabiners, 150' $\frac{7}{16}$" (11 mm) rope
	SDSD25	Anthron Descender
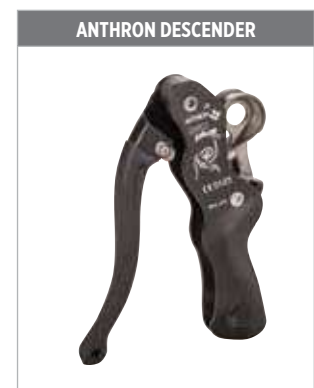
Anthron systems and replacement ropes available in lengths of 25' increments from 50' up to 600'

Rescue Equipment: Components and Rescue Ropes

RCD SYSTEM COMPONENT PARTS			
Part No. SPPRL4000 Part No. SMI420560 Part No. SPPRL4000			
SuretyMan™ Edge Roller	**SuretyMan Rescue Eight**	**SuretyMan Rigging Plates**	**SuretyMan Carabiner**
Protects rope from sharp edges and reduces rope friction	For rope diameters from ⁷⁄₁₆" (11 mm) to ⅝" (16 mm)	**Stealth Rigging Plate:** (left) anchor on point and wings will rotate toward load for straighter line of pull **Stretcher Rigging Plate:** (right) designed to unclutter and organize litter rigging points, reducing chance of error.	Developed for fire and rescue communities

PART NO.	Description	Strength	Weight	Material
SPPRL4000	SuretyMan Edge Roller w/ rubber-covered 6" x 10" (15.3 cm x 24.4 cm) base, bottom/side plate attachment hole, slots in base plate for tube webbing	—	2.8 lbs. (1.3 kg)	Aluminum
SMI420560	Quick Link ⁵⁄₁₆" (8 mm) for use with SuretyMan Edge Roller [two required]	—	—	Aluminum
SRSF5077	SuretyMan Rescue Eight	6,720 lb. (30 kN)	1.5 lbs. (675 g)	Aluminum
SRSPR5990	SuretyMan Stealth Rigging Plate, teal	11,000 lb. (48 kN)	.46 lbs. (250 g)	Aluminum
SRSPR5980	SuretyMan Stretcher Rigging Plate, teal	12,200 lb. (54 kN)	.74 lbs. (330 g)	Aluminum
SRCC641	Carabiner, 1.2" (32 mm) gate, manual locking, NFPA 1993-1994, Class G	12,364 lb. (55 kN)	11 oz. (311 g)	Zinc-plated carbon steel

RESCUE ROPES AND ACCESSORIES			
Rescue Rope	**Rope Bag #1**	**Rope Bag #2**	**Termination Plate**

PART NO.	FP RESCUE ROPES
SRP508960050	⅝" (16 mm), nylon, 11,400 lb. (5,171 kg), black, 50'
SRP530961050	½" (12 mm) polyester, 9,100 lb. (4,128 kg), red, 50' (Meets NFPA requirements)
SRP504860SL050	½" (12 mm), nylon, 9,100 lb. (4,128 kg), white/orange tracer, 50'
SRP504866SL050	½" (12 mm), nylon, 9,000 lb. (4,083 kg), white/blue tracer, 50'
SRP504863SL050	½" (12 mm), nylon, 9,000 lb. (4,083 kg), red/white tracer, 50'
SRP508760050	⁷⁄₁₆" (11 mm), nylon, 6,500 lb. (2,948 kg), black, 50'
SRP544000050	⁷⁄₁₆" (11 mm), nylon, 6,500 lb. (2,948 kg), olive, 50'
SRP510660SL050	⅜" (10 mm), nylon, 5,000 lb. (2,269 kg), white/blue tracer, 50'
SRP500900	9 mm Accessory Cord, nylon. Use with ½"-⅝" (1.3 cm-1.6 cm) main line, 3,600 lb. (1,632 kg)
SRP500860	8 mm Accessory Cord, nylon. Use with ½"-⅝" (1.3 cm-1.6 cm) main line, black, 3,100 lb. (1,406 kg)
SRP500700050	7 mm Accessory Cord, nylon. Use with ⅜"-½" (1 cm-1.3 cm) main line, red, 2,600 lb. (1,179 kg), 50'
SRP5020550050	5.5 mm Titan Cord, Spectra Core, nylon, 4,500 lb. (2,042 kg), 50'
SRP500500050	5 mm Accessory Cord, nylon, 1,275 lb. (578 kg), 50'

PART NO.	ROPE BAGS
SRB430101	Rope Bag #1, orange, holds 120-ft. ½" (36.6 m 12 mm) rope
SRB430105	Rope Bag #1, black, holds 120-ft. ½" (36.6 m 12 mm) rope
SRB430201	Rope Bag #2, orange, holds 200-ft. ½" (60.1 m 12 mm) rope
SRB430205	Rope Bag #2, black, holds 200-ft. ½" (60.1 m 12 mm) rope
SRB430301	Rope Bag #3, orange, holds 300-ft. ½" (91.4 m 12 mm) rope
SRB430305	Rope Bag #3, black, holds 300-ft. ½" (91.4 m 12 mm) rope
SRB430601	Rope Bag #6, orange, holds 600-ft. ½" (182.8 m 12 mm) rope
SRB430605	Rope Bag #6, black, holds 600-ft. ½" (182.8 m 12 mm) rope

PART NO.	Accessory
SRIW1000	Termination plate ⅝"

SuretyMan™ Rescue Utility System

Carabiner

Right-handed Ascender
(standard)

Anti-Reversing Double Pulleys

Securing Rope with Carabiner

Storage Bag

Carabiner

SuretyMan Static Kernmantle Rope
$\frac{7}{16}$" (11 mm)

Left-handed Ascender
(optional)

PRODUCT	SuretyMan Rescue Utility System
FEATURES	• Primarily used for raising and lowering people or equipment in rescue/industrial work access/confined space applications • Pulleys equipped with a built-in anti-reversing lock • Offers rapid deployment, is virtually maintenance free, and is rated for two-person load • Compact and lightweight: standard system weight 17 pounds (7.7 kg) • Rated capacity of 600 lbs. (272 kg) for personnel • Standard rope length 200 ft. (66m) with maximum rope length 800 ft. (267m)

NOTE: Due to 4:1 mechanical advantage, user should order system with 4 times the rope necessary for the application. For example, a 50' application requires 200' of rope.

PART NO.	Description	Length
SRS15200	SuretyMan Rescue Utility System	200' (61 m)
SRS15300	SuretyMan Rescue Utility System	300' (91.4 m)
SRS15400	SuretyMan Rescue Utility System	400' (122 m)
10093608	SuretyMan Rescue Utility System	500' (152.4 m)
10033360	SuretyMan Rescue Utility System	600' (183 m)
10101135	SuretyMan Rescue Utility System	800' (244 m)
10037101	Left-hand ascender with securing rope	
10035698	Right-hand ascender with securing rope	

Confined Space/Head First Extraction System

Adjustable Victim Strap
(B) P/N SRS3101

Carabiners
(D) P/N SRCA883

Pair of Ankle Harnesses
(C) P/N SRS3103

Storage Bag
(E) P/N SRB430105

Adjustable Lifting Strap
(A) P/N SRS3102
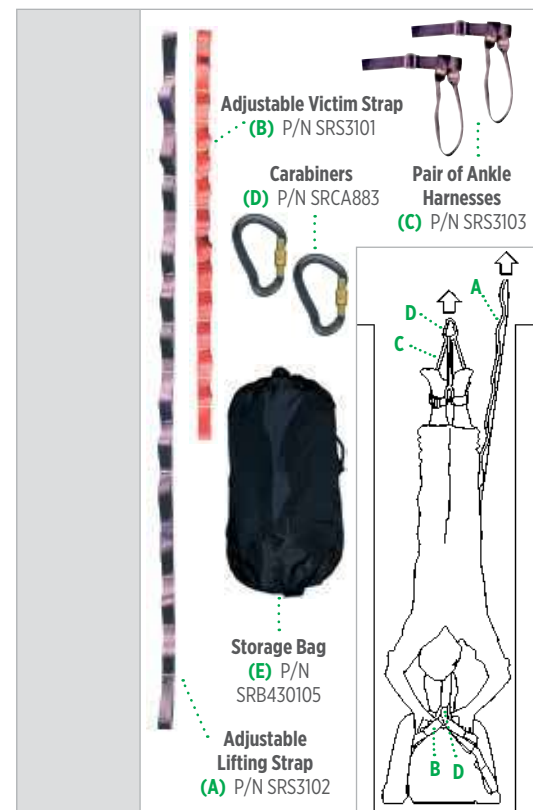
PRODUCT	Confined Space/Head First Extraction System
FEATURES	• Specialized rescue product designed for extreme cases in which rescuer needs to be lowered head-first into confined space to perform rescue • Allows rescuer to harness victim, and raise both victim and rescuer out of confined space • Leaves both hands free for rescuer to assist in retrieval of victim • Consists of adjustable lifting strap (A), adjustable victim strap (B), one pair of ankle harnesses (C), two carabiners (D), and storage bag (E) • Can be used with any confined space retrieval equipment such as tripods and davits • Strength: 5,000 lb. (22 kN) • Weight approx: 2 lb. (0.9 kg)

PART NO.	Description
SRS3100	Confined Space/ Head First Extraction System
SRS3103	Rescue anklets
507002	Rescue wristlets

Fall Protection Rescue Kit

Pole Adapter
P/N SCE109001

Rescue Utility System

Remote Hook
P/N SRCA401

Adjustable Pole
P/N SFP675009
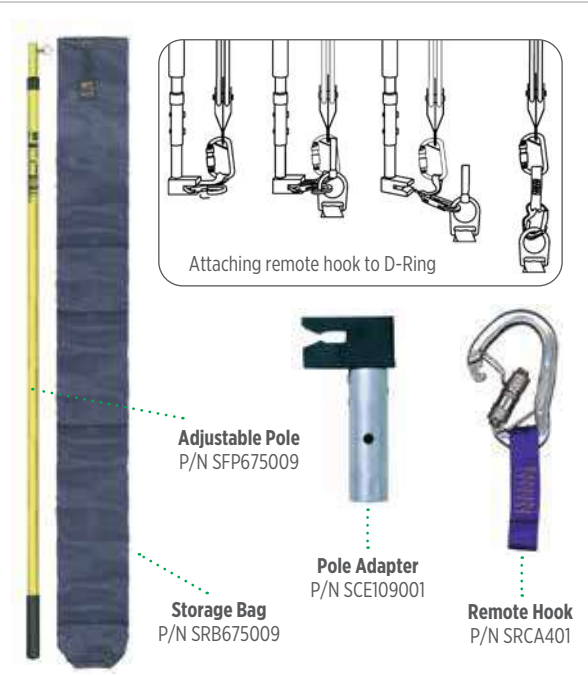
Storage Bag

PRODUCT	FP Protection Rescue Kit
FEATURES	• Out-of-the-bag rescue system • Remote hook and extension pole allow for remote attachment of rescue line to victim, while rescue utility system allows rescuer to raise or lower victim to safety • Kit should be used with back-up system (not included)

PART NO.	Description
10030025	Fall Protection Rescue Kit

Rescue Pole/Remote Hook

Attaching remote hook to D-Ring

Adjustable Pole
P/N SFP675009

Pole Adapter
P/N SCE109001

Storage Bag
P/N SRB675009

Remote Hook
P/N SRCA401

PRODUCT	Rescue Pole/Remote Hook
FEATURES	• Rescue tool for retrieval of worker suspended in fall arrest system or for remote rescue access • System includes adjustable fiberglass pole, pole adapter, and remote hook • Optional nylon storage bag

PART NO.	Description
SFP675009	Adjustable pole, fiberglass, 6' (1.8 m) to 12' (3.6 m)
SFP675012	Adjustable pole, fiberglass, 8' (2.4 m) to 24' (7.3 m)
SRCA401	Remote hook, aluminum, with web sling
SCE109001	Pole adapter, aluminum/rubber
SCE109003	Pole adapter, 6' (1.8m), aluminum/rubber
SRB675009	Storage bag for SFP675009

General Accessories

Hands-Off™ Chisel Grip
• Keeps hands away from point of contact
• Ergonomically designed to match specific shape of human hand for comfortable and firm grip
• Permits faster, safer, more accurate work
• Easy adjustment to hold variety of chisels and stakes up to 1" diameter
• Vibration-absorbing handle
• Eases awkward hand positioning
• Economical
• Spark resistant

PART NO.	
10040018	Hands-Off Chisel Grip

Ergonomic Tool Holders
• Holds wrenches, chisels, etc.
• Vibration-absorbing design
• Attach to broom handles and mops for better grip
• Eases awkward hand positioning

PART NO.	
507005	Tool Holder, 18"
507006	Tool Holder, spark resistant, 18"

MSA Safety Training

MSA Virtual Led Training

As your trusted partner in safety training and awareness, MSA is now offering Virtual Led Training (VLT) courses. This new VLT offering means courses are conducted via video conferencing with an MSA Training Instructor in the same manner as our current in-person training, and follow the same class format and content that would happen on-site. VLT gives you a real-time learning experience as if you were participating in an in-person session. Courses can be:
• Customized to the certifications you and your team members need
• Completed via video conference from any location
• Scheduled for the date and time that works best for you

The following is the current list of courses being offered in the VLT format:

COMPETENT USER LEVEL

• Comp User for Portable Instruments (4 hours)

• Comp User for Permanent Instruments
 (TBD depending on number of instruments)

• Comp User for SCBA (4 hours)

RITE CERTIFICATION

• RITE (Repair Instrument Training Education) (1.5 days/12 hours)

• FIRST (Fixed Instrument Repair and Service Training)
 (TBD depending on number of instruments)

CARE

• CARE1.5 (CARE Initial Certification - No G1) (12 hours)

• G1CARE-8HR-FIRE (G1 CARE Certification Upgrade - NFPA) (8 hours)

• G1CARE-8HR-IND (G1 CARE Certification Upgrade - Industrial)
 (8 hours)

• G1CARE-12HR-FIRE (G1 CARE Initial Certification - NFPA) (12 hours)

• G1CARE-12HR-IND (G1 CARE Initial Certification - Industrial) (12 hours)

CONFINED SPACE

• CSAWARE (Confined Space Awareness) (8 hours)

• CONFINEDSPACE (Confined Space Entry & Operations) (16 hours)

SAFETY AT HEIGHTS

• FPAWARE (Fall Protection Awareness) (4 hours)

• CPINSPECT (Competent Person for Equipment Inspection) (4 hours)

• CPHEIGHTS (Competent Person for Safety at Heights) (16 hours)

• APHEIGHTS (Authorized Person for Safety at Heights) (8 hours)

• TTTCHPEIGHTS (Train-the-Trainer for CP Safety at Heights) (8 hours)

• CPSHRECERT (Recertification for CP Safety at Heights) (8 hours)

• FPINSTALLER-RECERT (Latchways Systems Installer Training Recertification) (8 hours)

• MERIT-LW2 (Latchways Level 2 SRL Service & Repair) (8 hours)

• MERIT-LWR (Latchways Level 2 SRL Recertification) (4 hours)

RECERTIFICATION

• RITE (8 hours)

• FIRST *(TBD depending on number of instruments)*

• CARE (8 hours)

For more information regarding these classes or scheduling please contact the Training Department at:
Phone: 1-866-347-6093
Email: training@MSAsafety.com

Fall Protection: Training

MSA In-Person Training Courses

Safety at Heights Training Courses

FALL PROTECTION AWARENESS (4 HRS)

• ABCs of fall protection
• Proper selection, pre-use inspection and care of fall protection equipment
• Proper donning and doffing of a harness
• Hazard recognition, evaluation and control
• Fall clearance calculations

COMPETENT PERSON FOR EQUIPMENT INSPECTION (4 HRS)

• Consensus standards
• Formal documentation requirements
• Formal inspection process
• Equipment cleaning and storage

AUTHORIZED PERSON FOR SAFETY AT HEIGHTS (8 HRS)

• Consensus standards
• Dynamics of a fall
• Fall hazard recognition and assessment
• Understanding impact forces
• Procedures for continuous Safety at Heights
• Selection, application and use of fall protection systems
• Calculating fall clearances

RESCUE PLANNING FOR SAFETY AT HEIGHTS (4 HRS)

• Risk assessment of fall hazards
• Planning and proper rescue procedures
• Hierarchy of rescue
• Selection of rescue equipment
• Rescue training and simulations

COMPETENT PERSON FOR SAFETY AT HEIGHTS (16 HRS)

• Authorized Person for Safety at Heights course
• Competent Person for Equipment Inspection course
• Rescue Planning for Safety at Heights course

COMPETENT PERSON TRAIN-THE-TRAINER (8 HRS)

• Assessment and identification of safety at height hazards
• Discussion of fall protection safety program development based on the needs of the specific site and regulatory requirements
• Analyzing student comprehension and help them to remember company procedural mandates for safety at height
• Guidance on performing practice exercises related to fall protection

COMPETENT PERSON FOR SAFETY AT HEIGHTS REFRESHER (8 HRS)

See Competent Person for Safety at Heights course

QUALIFIED PERSON (24 HRS)

Designed for Engineers, Designers and Safety Professionals who are responsible to analyze or design fall protections systems.

COMPETENT PERSON FOR HORIZONTAL LIFELINE INSTALLATION & INSPECTION (4 HRS)

• Design statement, use and limitations
• Installation procedures
• Inspection criteria, including pass/fail & disposal
• Cleaning and storage

ON-SITE DOCUMENTED COMPETENT PERSON EQUIPMENT INSPECTION

Our experienced and trained team will come to your facility to perform a documented and thorough competent inspection of all your safety equipment and provide your organization with a detailed written report documenting the product, serial number, description, pass/fail and overall disposition.

Confined Space Training Courses

CONFINED SPACE BASIC ROPE RIGGING AND RESCUE (8 HRS)

Learn the basics of rope theory and use, including utilizing pulleys and rope to create mechanical advantage and system knots that will be used in constructing a "Z-Rig" haul system. Concludes with a practice evolution where students are given a scenario of a downed worker inside a confined space and asked to perform a rope rescue utilizing the tools and techniques demonstrated to them throughout the day.

CONFINED SPACE ENTRY TRAIN-THE-TRAINER (8 HRS)

Designed to prepare employees that must train select confined space courses and material at your facility. The class provides the student the necessary skills to develop, deliver and evaluate students on basic confined space knowledge and technical understanding.

CONFINED SPACE ENTRY & OPERATIONS (16 HRS)

2-day Confined Space Entry & Operations training course is technical in nature, comprehensive, performance-based and taught by an in-house trained and certified professional instructor. Our Technical Training incorporates information and skills required by all applicable regulatory bodies.

• Discussion of the types of hazards that can turn a regular space into a "permit-space"
• Procedures to be followed when a permit-space is to be entered

CONFINED SPACE AWARENESS (8 HRS)

1-day training course is designed for those individuals who are responsible for managing and overseeing employees working in confined space entry activities.

• Define confined space
• Identify typical hazards and associated risks
• Explain roles, responsibilities and procedures for confined space operations
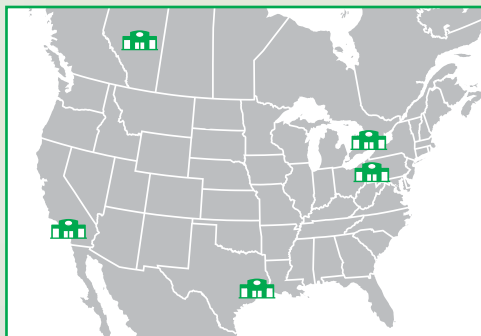
MSA has regularly scheduled training courses at our Pittsburgh, Houston, Corona, Edmonton and Toronto facilities.
We will also come to your facility, training your employees in their work environment; addressing the specific hazards they face on a regular basis.

Contact us at 866.347.6093, training@msasafety.com, or visit our website www.msasafety.com

MSA In-Person Training Courses

MSA Latchways Training Courses

MSA LATCHWAYS COMPETENT PERSON FOR SRL INSPECTION COURSE (4 HRS)

• Consensus Standards
• Formal documentation requirements
• Formal inspection process, including the criteria for pass/fail and disposal
• Equipment cleaning and storage

MSA LATCHWAYS TECHNICAL LEVEL SRL MAINTENANCE COURSE (8 HRS)

• Explain theory of operation MSA Latchways SRLs
• Demonstrate disassembly and inspection process
• Demonstrate reassembly and functional test
• Demonstrate testing procedure
• Perform quality assurance inspection

RECERTIFICATION: MSA LATCHWAYS SRL INSPECTION OR MAINTENANCE TRAINING COURSE (4 HRS)

• For technicians who require a new three (3) year recertification for either the Level 1 Competent Person for Inspection certificate or the Level 2 Technician Maintenance certificate

MSA Fall Protection Demo Truck

![MSA The Safety Company]

MSA—The Safety Company

Established in 1914, MSA Safety Incorporated is the global leader in the development, manufacture, and supply of safety products that protect people and facility infrastructures. Many MSA products integrate a combination of electronics, mechanical systems, and advanced materials to protect users against hazardous or life-threatening situations. The company's comprehensive product line is used by workers around the world in a broad range of markets, including the oil, gas, and petrochemical industry, the fire service, the construction industry, mining, and the military. MSA's core products include self-contained breathing apparatus, fixed gas and flame detection systems, portable gas detection instruments, industrial head protection products, firefighter helmets and protective apparel, and fall protection devices. With 2023 revenues of $1.8 billion, MSA Safety is headquartered in Cranberry Township, Pennsylvania and employs a team of over 5,000 associates across its more than 40 international locations. For more information visit MSA's web site at www.MSAsafety.com.

Our Mission

MSA's mission is to see to it that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

MSA: WE KNOW WHAT'S AT STAKE.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit **MSAsafety.com/offices**.