

# MSA Safety Equipment Catalog

Volume 19, Number 1  
2019–2021



WE KNOW WHAT'S AT STAKE.

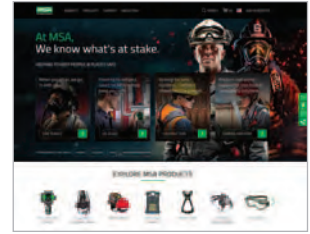
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- Fall Protection Training *(For more information, see pp. 196–197.)*
- Confined Space Training *(For more information, see pp. 196.)*
- SCBA & Respiratory Training
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- Fixed Instrument Training
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# 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

## **To reach our Customer Service Center:**

*Toll-free*..... 1-800-MSA-2222  
*Toll-free Fire Service*..... 1-877-672-3473 (FIRE)  
*After-hours Emergencies* ..... 1-800-MSA-5555  
*FAX* ..... 1-800-967-0398  
*Email: Orders*..... [PlaceOrder@MSAsafety.com](mailto:PlaceOrder@MSAsafety.com)  
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*Email: Fire Service Customer Service*..... [FIRE.CS@MSAsafety.com](mailto:FIRE.CS@MSAsafety.com)  
*MSA Voice Mail System*..... 1-800-759-6423  
*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  
*Outside the U.S.* ..... (+1) 724-776-8626  
*FAX* ..... (+1) 724-741-1553  
*Email* ..... [Lamzonecs@MSAsafety.com](mailto:Lamzonecs@MSAsafety.com)

## **General Company Information:**

*Email* ..... [info.us@msasafety.com](mailto:info.us@msasafety.com)

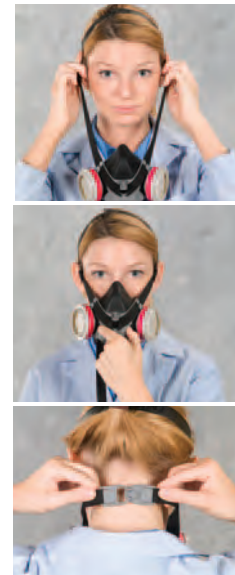
## Advantage® 420 Half-Mask Respirator



- 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 1012-36-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)

SPARE PARTS AND ACCESSORIES			
	10097807	Harness Assembly with Buckles (includes head cradle, elastic straps, and buckle set)	
	10097883	Maintenance Valve Set (includes one (1) exhalation valve and two (2) inhalation valves)	
	10097886	Advantage 420 Maintenance Kit (includes harness assembly with buckles, one (1) exhalation valve, and two (2) inhalation valves)	
	10097810	Yoke with lever	
	10097881	Lever, package of 5	
	10097888	Inhalation valve, package of 10	
	10097891	Exhalation valve, package of 10	
	10097884	Buckle set, package of 5	
	10097887	Storage poly bag	
	468730	Vinyl storage bag with belt loops	
	809999	Advantage Adapter for threaded Comfo cartridges, package of 2	
	10009971	MSA Confidence® Plus 2 Germicidal Cleaner, 32 oz. bottle	
	697383	Cleaning Towelettes (individually wrapped), package of 100	
	697444	Bitrex Qualitative Fit-Test Kit	
	10056424	Advantage Quantitative Fit Test Adapter	
	10097899	Instruction Manual, CD format	



Easy 3-Step Donning Process

## 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 <b>2-piece</b> neckstrap
	815448	815444	815452	Advantage 200 LS Respirator, with <b>single</b> 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 1021-02-MC.

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

## 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 noseclip 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	10083785	10083781	10083789	Advantage 4200 Facepiece, with <b>polyester net</b> head harness, hycar
	10083787	10083783	10083791	Advantage 4200 Facepiece, with <b>rubber</b> head harness, hycar
	10108570	10108568	10108572	Advantage 4200 Facepiece, with <b>Kevlar net</b> head harness, hycar
ADVANTAGE 4200 FACEPIECES	10083784	10083760	10083788	Advantage 4200 Facepiece, with <b>polyester net</b> head harness, silicone
	10083786	10083782	10083790	Advantage 4200 Facepiece, with <b>rubber</b> head harness, silicone
	10108569	10108567	10108571	Advantage 4200 Facepiece, with <b>Kevlar net</b> head harness, silicone
ADVANTAGE 4100 FACEPIECES*	10083797	10083793	10083801	Advantage 4100 Facepiece, with <b>polyester net</b> head harness, hycar
	10083799	10083795	10083803	Advantage 4100 Facepiece, with <b>rubber</b> head harness, hycar
	10108576	10108574	10108578	Advantage 4100 Facepiece, with <b>Kevlar net</b> head harness, hycar
ADVANTAGE 4100 FACEPIECES*	10083796	10083792	10083800	Advantage 4100 Facepiece, with <b>polyester net</b> head harness, silicone
	10083798	10083794	10083802	Advantage 4100 Facepiece, with <b>rubber</b> head harness, silicone
	10108575	10108573	10108577	Advantage 4100 Facepiece, with <b>Kevlar net</b> 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

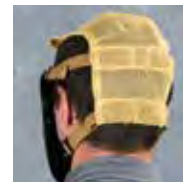
WELDER'S ACCESSORIES	10077063	Clip-On Welder's Adapter for 4200 Twin-Port Facepiece; with cover lens, less filter plate
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rubber head harness



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 <i>Twin-Port</i>	10028996	10028995	10028997	Advantage 3200 Facepiece, with rubber head harness
	10031340	10031309	10031341	Advantage 3200 Facepiece, with European-style harness
ADVANTAGE 3100 FACEPIECES <i>Single-Port</i>	10028999	10028998	10029000	Advantage 3100 Facepiece, with rubber head harness
	10031343	10031342	10031344	Advantage 3100 Facepiece, with European-style harness

## G1 Facepiece with APR Adapter



10199720

- Approved with full line of Advantage Chemical, Combination, and Particulate Cartridges, and Flexi Filters
- Comfo style cartridges and filters can be used with adapter

Part No.	Description
10199720	Twin Cartridge APR Adapter for G1 Facepiece
10144231-SP	Single Canister APR Adapter

## Ultra-Twin® Full-Facepiece Respirator



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

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

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

## 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.

# Respiratory Protection

## 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, 1000, 3000 and 4000 Series Full-Facepiece Advantage Respirators.

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

### ⚠ 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:

### 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.

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	
Diisocyanates	Methylene chloride	Phosgene	Vinyl chloride
Dimethyl sulfate	Nickel carbonyl	Phosphine	

### Notes

- 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.
- Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health.
- 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.
- 99.97 percent efficient against 0.3 micron DOP.
- 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 Advantage Respirators with Adapter (P/N 809999).

			Acid Gases											Filter Type & Efficiency			
MSA Cartridge Description	Re-Order Part Number	Color Coding	Organic Vapor	Chlorine	Sulfur Dioxide	Chlorine Dioxide	Hydrogen Chloride	Hydrogen Sulfide	Ammonia	Methylamine	Formaldehyde	Hydrogen Fluoride	Mercury Vapor	P100	R95	N95	See Notes on p. 6
			OV	CL	SD	CD	HC	HS	AM	MA	FM	HF	MV				
Organic Vapor (GMA)	464031 (10 in box)		☞											☞	☞		2,3,5
Organic Vapor/P100 (GMA)	815178 (6 in box)		☞											☞			2,3,4
Organic Vapor/P100 Short Stack (GMA)	815186 (6 in box)		☞											☞			2,3,4
Acid Gas (GMB)	464032 (10 in box)			☞	☞	☞	☞	☞							☞	☞	2,5
Acid Gas/P100 (GMB)	815179 (6 in box)			☞	☞	☞	☞	☞						☞			2,4
Organic Vapor/Acid Gas (GMC)	464046 (10 in box)		☞	☞	☞	☞	☞	☞							☞	☞	2,3,5
Organic Vapor/Acid Gas/P100 (GMC)	815180 (6 in box)		☞	☞	☞	☞	☞	☞						☞			2,3,4
Organic Vapor/Acid Gas/P100 Short Stack (GMC)	815188 (6 in box)		☞	☞	☞	☞	☞	☞						☞			2,3,4
Ammonia/Methylamine (GMD)	464033 (10 in box)								☞	☞					☞	☞	2,3,5
Ammonia/Methylamine/P100 (GMD)	815181 (6 in box)								☞	☞				☞			2,3,4
Multigas (GME)	492790 (10 in box)		☞	☞	☞	☞	☞	☞	☞	☞	☞	☞			☞	☞	2,3,5
Multigas/P100 (GME)	815182 (6 in box)		☞	☞	☞	☞	☞	☞	☞	☞	☞	☞			☞		2,3,4
Iodine Vapor/P100 (GMI)*	815184 (6 in box)		☞											☞			2,4
Chlorine/Mercury Vapor/P100 (Mersorb)	815185 (6 in box)		☞	☞									☞	☞			2,4
Low-Profile P100	815177 (10 in box)													☞			1,4
Sparkfoe® P100	815176 (10 in box)													☞			1,4
Sparkfoe Low-Profile P100	10153412 (16 in box)													☞			1,4
Pre-filter and Cover N95	816662 N95 (10 in pkg.) 816661 N95 (50 in pkg.) 489353 Reusable snap-on cover (1 in pkg.; 2 req.)															☞	1
Pre-filter and Cover R95	816287 R95 (20 in box) 489219 R95 Reusable snap-on cover (1 in pkg.; 2 req.)														☞		1

\* 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

See Notes on p. 6

MSA Filter Description	Part No.	Color Coding	P100	P95	N95	Notes
Flexi-Filter/P100	818342		☞			1,4
Flexi-Filter/P100 w/Nuisance Level OV, Ozone Removal	818343		☞			1,4
Flexi-Filter/P100 w/Nuisance Level AG, HF Removal	818344		☞			1,4
Flexi-Filter/N95	818346				☞	1
Flexi-Filter/N95 w/Nuisance Level OV Removal	818347				☞	1
Flexi-Filter/P95	818354			☞		1
Flexi-Filter/P95 w/Nuisance Level OV Removal	818355			☞		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
		10097899	Instruction Manual, CD Format
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/Ultavue
		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
		817446	QuikChek IV Adapter for Ultravue/Ultra Elite facepieces w/1/4-turn quick-disconnect, w/Type H cartridge
		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

<b>PRODUCT NAME</b>	<b>MSA Confidence® Plus 2 Germicidal Cleaner</b>
<b>DESCRIPTION</b>	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.
<b>PART NO.</b>	<b>10009971</b>

<b>PRODUCT NAME</b>	<b>Personal Safety Equipment Towelettes</b>
<b>DESCRIPTION</b>	Provides an excellent method for wiping and refreshing respirators, hardhats, and other safety equipment between full cleaning periods.
<b>PART NO.</b>	<b>697383</b> – Box of 100 individually wrapped towelettes (7-1/4" x 5") <b>697382</b> – Canister with 220 towelettes (4-1/4" x 6") <b>10022871</b> – "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
<b>MSA RESPIRATOR FIT TEST KITS</b>	<b>697287</b>	Saccharin Qualitative Fit Test Kit	
	<b>697444</b>	Bitrex Qualitative Fit Test Kit	
	<b>801628</b>	Banana Oil Qualitative Fit Test Kit	
	<b>697285</b>	Replacement (Saccharin) Sensitivity Test	
	<b>697445</b>	Solution, 55 ml bottle (Bitrex)	
	<b>697286</b>	Replacement Fit-Test (Saccharin) Solution, 55 ml bottle	
	<b>697446</b>	Replacement Fit-Test (Bitrex) Solution, 55 ml bottle	
	<b>697447</b>	#1 Sensitivity Nebulizer	
<b>697459</b>	#2 Fit-Test Nebulizer		
<b>697448</b>	Test Hood (Same for Both)		
<b>697325</b>	"Using the Qualitative (Saccharin) Fit Test Kit" DVD		
<b>697449</b>	"Using the Qualitative (Bitrex) Fit-Test Kit" DVD		

## Online Resources



### Online Response® Respirator Selector

Available at [www.MSAafety.com/responseguide](http://www.MSAafety.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.MSAafety.com/responseguide](http://www.MSAafety.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
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 9513-0217
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 9513-0218
Advantage 1000	Full-Face Negative Pressure	50	Qualitative or Quantitative*	500	Advantage Adapter #10056424	Bayonet	N/A	OHD P/N 9513-0219
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 9513-0210
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	N/A	N/A	OHD P/N 9513-0130
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
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 KITS <i>less facepiece</i>	OptimAir Mask-Mounted PAPR Upgrade Kit	10095166		
	OptimAir MM2K PAPR Upgrade Kit	10025945		
REPLACEMENT FACEPIECES <i>Advantage 3100</i>	Facepiece			
	Small	Medium	Large	
	Black silicone w/rubber harness	10095193	10095189	10095197
Black Hycar rubber with rubber harness	10095194	10095190	10095198	
REPLACEMENT FACEPIECES <i>Advantage 4100*</i>	Material			
	Small	Medium	Large	
	Black silicone w/net head harness	10083796	10083792	10083800
Black Hycar rubber w/net head harness	10083797	10083793	10083801	
REPLACEMENT FACEPIECES <i>Ultra Elite</i>	Material			
	Small	Medium	Large	
	Silicone rubber head harness	493072	493028	493116
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

\*Also requires RD40 Adapter P/N 10065330

## OptimAir TL Powered Air-Purifying Respirator

- 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
- **Applications include:** asbestos abatement, welding, sanding & grinding



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

	Description	Part No.
OPTIMAIR TL KITS <i>for facepieces</i>	OptimAir TL Kit with <b>standard</b> battery	10081114
	OptimAir TL Kit with <b>long-life</b> battery	10081115
OPTIMAIR TL KITS <i>for hoods</i>	OptimAir TL Kit with <b>standard</b> battery	10081116
	OptimAir TL Kit with <b>long-life</b> battery	10081117

		Small	Medium	Large
ADVANTAGE 3100 FACEPIECE ONLY <i>single-port</i>	Advantage 3100, black silicone, with <b>rubber</b> head harness	10028999	10028998	10029000
	Advantage 3100, black hycar, with <b>European-style</b> head harness	10031343	10031342	10031344
ADVANTAGE 4100 FACEPIECE ONLY <i>single-port</i> <i>Also requires RD40 Adapter P/N 10065330</i>	Advantage 4100, black silicone, with <b>polyester net</b> head harness	10083796	10083792	10083800
	Advantage 4100, black silicone, with <b>rubber</b> head harness	10083798	10083794	10083802
	Advantage 4100, black silicone, with <b>Kevlar net</b> head harness	10108575	10108573	10108577
	Advantage 4100, black hycar, with <b>polyester net</b> head harness	10083797	10083793	10083801
	Advantage 4100, black hycar, with <b>rubber</b> head harness	10083799	10083795	10083803
	Advantage 4100, black hycar, with <b>Kevlar net</b> head harness	10108576	10108574	10108578
ULTRA ELITE FACEPIECE ONLY <i>single-port</i>	Ultra Elite, black silicone, with <b>rubber</b> head harness	493072	493028	493116
	Ultra Elite, black hycar, with <b>rubber</b> head harness	493064	493020	493108

	Description	Part No.
FACEPIECE ACCESSORIES	RD-40 Inlet assembly, required for all Advantage 4100 facepieces	10065330
	Hose for facepiece	10049630
	Flow check device for facepiece only	10087129

	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 ( <i>white</i> )	10095743 ( <i>white</i> )	
	10095748 ( <i>yellow</i> )	10095749 ( <i>yellow</i> )	
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	

## OptimAir TL Powered Air-Purifying Respirator

	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, 10-pack	10082441
	Flow check device for hood only	10087130
	Fastener kit, hood to V-Gard helmet	10089665

	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.
BATTERIES AND CHARGERS FOR OPTIMAIR TL P APR	Standard battery	10076108
	Standard battery charger	10076110
	Long-life battery	10076109
	Long-life battery charger	10076107

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

## 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—4-1/2" x 5-1/4"—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 <b>Ultravue</b> and <b>Ultra Twin</b> Facepieces; with cover lens, less filter plate	472859
	Clip-On Welder's Adapter for <b>Ultra Elite</b> Facepiece; with cover lens, less filter plate	806482
	Clip-On Welder's Adapter for <b>Advantage 4200 Twin-Port</b> Facepiece; with cover lens, less filter plate	10077063
	Clip-On Welder's Adapter for <b>Advantage 4100 Single-Port</b> Facepiece; with cover lens, less filter plate	10065326
ACCESSORIES	Rayfoe Filter Plate, shade 10, heat-treated, 4-1/2 x 5-1/4	38347
	Rayfoe Filter Plate, shade 12, heat-treated, 4-1/2 x 5-1/4	38277
	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

	Small	Medium	Large	
ADVANTAGE 3100 SINGLE-PORT FACEPIECES	10028999	10028998	10029000	Advantage 3100 Facepiece, with <b>rubber</b> head harness
	10031343	10031342	10031344	Advantage 3100 Facepiece, with <b>European-style</b> head harness
ADVANTAGE 4100 SINGLE-PORT FACEPIECES	10083796	10083792	10083800	Advantage 4100 Facepiece, black silicone, with <b>polyester net</b> head harness
	10083797	10083793	10083801	Advantage 4100 Facepiece, black hycar, with <b>polyester net</b> 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) <i>Approval: TC-14G-0274</i>
	10067469*		Organic Vapor/P100 Canister (OV) also effective against organic iodides and iodide vapors <i>Approval: TC-14G-0279</i>
	10067491*		Hydrogen Fluoride/Chlorine/P100 Canister (HF/CL) <i>Approval: TC-14G-0280</i>
	10067470*		Formaldehyde/Acid Gas/Chlorine Dioxide/Hydrogen Sulfide/P100Canister (FM/AG/CD/HS) <i>Approval: TC-14G-0282</i>

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/Escapes 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

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



## 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



Ultra Elite CBRN Gas Mask



G1 CBRN APR

	Small	Medium	Large	
MILLENNIUM CBRN/ RIOT CONTROL GAS MASK	10051286	10051287	10051288	Millennium Gas Mask, with nosecup, drinking tube, and clear polycarbonate outsert <i>Order either Riot Control or CBRN canisters separately.</i>
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.)
ULTRA ELITE CBRN GAS MASK	10052776	10052781	10052778	Ultra Elite CBRN Gas Mask, with rubber head harness
	10052780	10052779	10052777	Ultra Elite CBRN Gas Mask, with Speed-ON Head Harness <i>Order CBRN canisters separately.</i>

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 <i>For Millennium Facepiece</i>	10008907	Polycarbonate lens outsert, clear, small
	10008906	Polycarbonate lens outsert, clear, medium/large
	10008909	Polycarbonate lens outsert, tinted, small
	10008908	Polycarbonate lens outsert, tinted, medium/large
LENS OUTSERT <i>For Advantage 1000 Facepiece</i>	806463	Polycarbonate lens outsert, clear, small
	806462	Polycarbonate lens outsert, clear, medium/large
	806465	Polycarbonate lens outsert, tinted, small
	806464	Polycarbonate lens outsert, tinted, medium/large
ESP® II COMMUNICATION SYSTEM <i>For Millennium and Advantage 1000 Facepieces</i>	10026265	1-piece, self-contained, electronic speech projection device less battery
OTHER ACCESSORIES <i>For Millennium and Advantage 1000 Facepieces</i>	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 communications
- **Applications include:** CBRN incidents, civil disturbances, clandestine labs



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

RESPONDER PAPR KITS <i>less facepiece and cartridge</i>	B-60141-030	Responder CBRN PAPR Kit with 30" Breathing Tube, LiSO <sub>2</sub> Battery
	B-60141-036	Responder CBRN PAPR Kit with 36" Breathing Tube, LiSO <sub>2</sub> 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

GAS MASK FACEPIECES <i>less cartridge</i>	 <p>Millennium Facepiece</p>			 <p>Ultra Elite Facepiece shown with Speed-ON Head Harness</p>
	Small	Medium	Large	
	10051286	10051287	10051288	Millennium Facepiece, hycar, with 6-point elastic head harness
	10052776	10052781	10052778	Ultra Elite Facepiece, hycar, with rubber head harness
10052780	10052779	10052777	Ultra Elite Facepiece, hycar, with Speed-ON Head Harness	

CARTRIDGES	10046570	CBRN Canister, each
	496081	OptiFilter XL cartridge, 6 pack
	10072237	PAPR GME Multigas HE cartridge, each
ACCESSORIES FOR RESPONDER PAPR	B-20040-001	NiMH Rechargeable Kit (2 NiMH Batteries, Charger & Cap)
	S-20036	NiMH Rechargeable Battery Pack
	B-20090-001	NiMH Rapid Battery Charger
	M-20020	LiSO <sub>2</sub> Mission Battery
	B-30060-001	NiMH Rechargeable Battery Cap Assembly
	S-30019	Web Belt Assembly
	B-10079-001	PAPR Carrying Case

## 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

<b>S-CAP FIRE ESCAPE HOOD</b>	<b>10064644</b>	S-CAP in cardboard box
	<b>10064645</b>	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



<b>W65 SELF-RESCUER RESPIRATOR COMPETE ASSEMBLIES</b>	<b>455299</b>	W65 Self-Rescuer Respirator, complete in carton
	<b>461100</b>	W65 Self-Rescuer Respirator, w/protective boot and neoprene holster
<b>HOLSTER</b>	<b>455535</b>	Leather Holster—adapts Self-Rescuer to belts up to 2-1/2 inches in width
	<b>460027</b>	Neoprene Holster—adapts Self-Rescuer to belts up to 2-1/2 inches in width
<b>PROTECTIVE BOOT</b>	<b>449428</b>	Protective Boot
<b>SELF-RESCUER TRAINING MODEL</b>	<b>455696</b>	Training Model, in red case

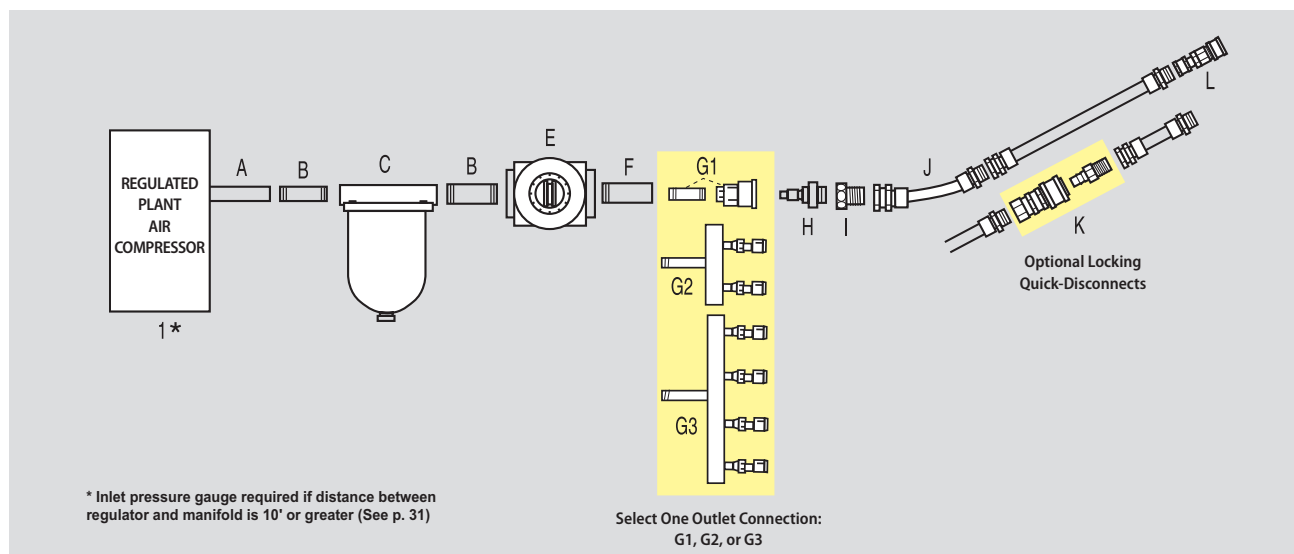
### Other MSA Products for Mining Applications

For miner's cap lamp and support system, see p. 84.  
For ALTAIR 4X MSHA Portable Gas Detector, see p. 60.  
For ALTAIR 5X MSHA Portable Gas Detector, see p. 58.

## Air-Line Systems

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-Supplied Air-Line Systems: Constant Flow or Pressure Demand System

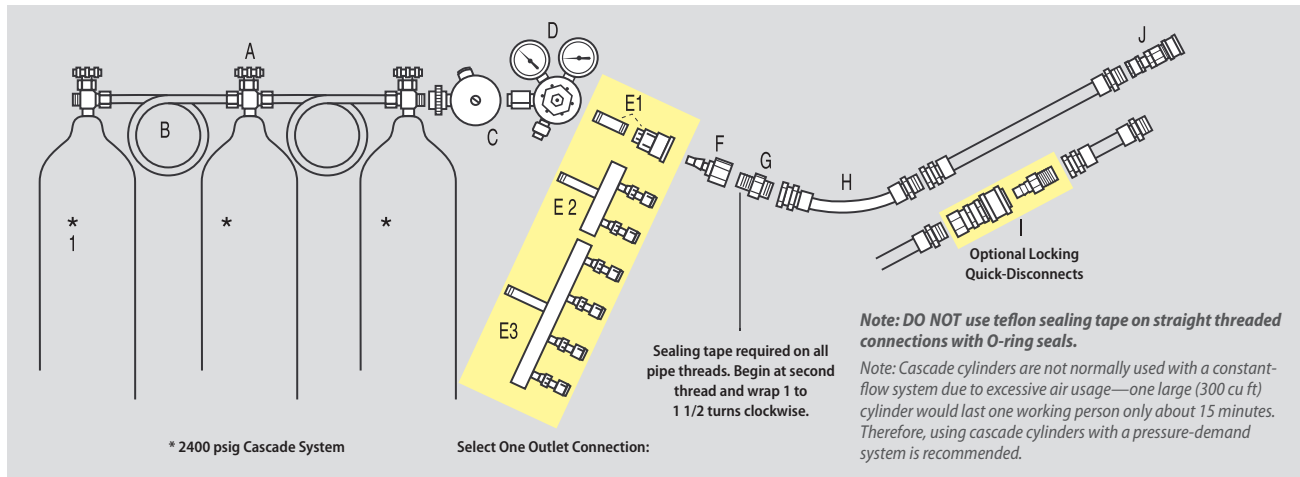


<b>1</b>	PLANT AIR COMPRESSOR	not supplied by MSA
<b>A</b>	OUTLET FITTING FOR SYSTEM	Varies with system
<b>B</b>	NIPPLE	(1/2" x 1/2" x 1-1/2" NPT) P/N 68833
<b>C</b>	AIR LINE FILTER	P/N 81857
<b>E</b>	PRESSURE REGULATOR	P/N 66716
<b>F</b>	OUTLET CONNECTIONS	Bushing (1/2" M x 1/4" F) P/N 625528
<b>G1</b>	FEMALE SOCKET NIPPLE	Female Socket—P/N varies with type (See p. 29—column 1) Nipple—1/4" x 1/4" NPT—(needed only w/Female Socket) P/N 459867
<b>G2</b>	2-OUTLET MANIFOLD	Foster Steel P/N 84416 Snap-Tite Aluminum P/N 486053 (See p. 31)
<b>G3</b>	4-OUTLET MANIFOLD	Foster Steel P/N 474370 Snap-Tite Aluminum P/N 93931 (See p. 31)

<b>H</b>	MALE PLUG WITH MALE 1/4" NPT	(See p. 29—column 4)
<b>I</b>	UNION ADAPTER	(See p. 29—column 3)
<b>J</b>	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 31)
<b>K</b>	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
<b>L</b>	FEMALE SOCKET ASSEMBLY	P/N varies with type (See p. 29—column 5)

## Air-Line Systems

### Typical Cascade Cylinder Air-Line Systems: Pressure Demand System



<b>1</b>	AIR CYLINDER	not supplied by MSA
<b>A</b>	AIR TEE BLOCK	P/N 68850 or P/N 10081206 (See p. 31)
<b>B</b>	AIR PIGTAIL	P/N 68851 or P/N 10081205 (See p. 31)
<b>C</b>	AUDI-LARM WARNING DEVICE	P/N 85078 or P/N 492307 (See p. 31)
<b>D</b>	AIR CYLINDER PRESSURE REGULATOR	P/N 68858 or P/N 633352 (See p. 31)
<b>E1</b>	OUTLET CONNECTIONS	Female Socket—P/N varies with type (See p. 29); Nipple 1/4" x 1/4" NPT (needed only w/Female Socket) P/N 459867
<b>E2</b>	2-OUTLET MANIFOLD	Foster Steel P/N 84416 Snap-Tite Aluminum P/N 486053 (See p. 31)
<b>E3</b>	4-OUTLET MANIFOLD	Foster Steel P/N 47370 Snap-Tite Aluminum P/N 93931 (See p. 31)

<b>F</b>	MALE PLUG WITH FEMALE 1/4" NPT	P/N varies with type (See p. 29)
<b>G</b>	UNION ADAPTER	(See p. 29)
<b>H</b>	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 31)
<b>I</b>	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 (See p. 29)
<b>J</b>	FEMALE SOCKET ASSEMBLY	P/N varies with type (See p. 29)

## 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/>

## 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, <b>LOW</b> pressure control valve, black body
	10108593	Constant Flow Air-Line Respirator, <b>HIGH</b> pressure control valve, gold body
	<b>Advantage 4100 Facepiece</b>	<b>Quick-disconnect</b>
CONSTANT FLOW COMPLETE ASSEMBLIES <i>High-pressure control valve (35–40 psig inlet pressure for 8–300 ft. of hose)</i>	10088132	Snap-Tite aluminum
	10088134	Foster steel
	10088136	Hansen brass
	10088135	CEJN Locking chrome-plated brass
CONSTANT FLOW COMPLETE ASSEMBLIES <i>Low-pressure control valve (10–15 psig inlet pressure for 8–50 ft. of hose)</i>	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 are available. For belts, MSA Air-Supply Hose and other accessories, see p. 31. For separate quick-disconnect plugs and sockets, see p. 29. See pages 18–19 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 <b>Advantage 4200 Facepiece</b> Uses Advantage Respirator Cartridges listed on p. 6
	490143	Constant-Flow Duo-Twin Respirator with <b>Ultravue Facepiece</b> Uses Comfo Respirator Cartridges listed on p. 7

## 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 <b>Advantage 4000 Facepiece</b> 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. <i>Order air-supply hose separately.</i>
COMPLETE ASSEMBLIES WITH DUO-FLO CONSTANT FLOW ADVANTAGE 4000 FACEPIECE	10116961	10116962	Abrasi-Blast Respirator with <b>Duo-Flo Constant-Flow Advantage 4000 Facepiece</b> 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	468716	468720	Abrasi-Blast Respirator with <b>Ultravue Facepiece</b> 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. <b>Inlet Pressure Range: 10–15 psi.</b>
<i>Assemblies can be specially ordered with different options</i>	468718	468722	Abrasi-Blast Respirator with <b>Ultravue Facepiece</b> 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. <b>Inlet Pressure Range: 35–40 psi.</b>
	478116	478117	Abrasi-Blast Respirator with <b>Ultravue Facepiece</b> 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. <b>Abrasi-Blast Duo-Flo.</b>

LENS CARTRIDGES <i>12 cartridges per carton</i>	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

## 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.



<b>PREMAIRE CADET KITS</b>	<b>10108493</b>	PremAire Cadet Air-Line Respirator with <b>Foster Steel</b> quick-disconnects, 50-foot section neoprene air-supply hose with <b>Foster Steel Plug</b>
	<b>10108594</b>	PremAire Cadet Air-Line Respirator with <b>Snap-Tite Aluminum</b> quick-disconnects, 50-foot section neoprene air-supply hose with <b>Snap-Tite Aluminum Plug</b>
	<b>10108495</b>	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
<b>PREMAIRE CADET COMPLETE ASSEMBLIES</b>	Ultra Elite	<b>10054790</b>	<b>10054792</b>	<b>10054791</b>	<b>10054793</b>
	Advantage 4000	<b>10081100</b>	<b>10081098</b>	<b>10081171</b>	<b>10081099</b>
	Less facepiece	<b>10121413</b>	—	<b>10121416</b>	—

### 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	
<b>ULTRA ELITE FACEPIECES</b>	<b>10037650</b>	<b>10037648</b>	<b>10037652</b>	hycar, <b>rubber</b> head harness, nose cup
	<b>10043417</b>	<b>10043413</b>	<b>10043431</b>	silicone, <b>rubber</b> head harness, nose cup
<i>Push-To-Connect Adapter</i>	<b>10043419</b>	<b>10043415</b>	<b>10043433</b>	hycar, <b>Speed-ON</b> head harness, nose cup
	<b>10043430</b>	<b>10043416</b>	<b>10043434</b>	silicone, <b>Speed-ON</b> head harness, nose cup

- 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	
<b>ADVANTAGE 4000 FACEPIECES</b>	<b>10075911</b>	<b>10075905</b>	<b>10075917</b>	hycar, <b>rubber</b> head harness, nose cup
	<b>10075910</b>	<b>10075904</b>	<b>10075916</b>	silicone, <b>rubber</b> head harness, nose cup
<i>Push-To-Connect Adapter</i>	<b>10075915</b>	<b>10075909</b>	<b>10075921</b>	hycar, <b>polyester net</b> head harness, nose cup
	<b>10075914</b>	<b>10075908</b>	<b>10075920</b>	silicone, <b>polyester net</b> head harness, nose cup
	<b>10108547</b>	<b>10108561</b>	<b>10108565</b>	hycar, <b>Kevlar net</b> head harness, nose cup
	<b>10108545</b>	<b>10108549</b>	<b>10108563</b>	silicone, <b>Kevlar net</b> head harness, nose cup

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



# Respiratory Protection

## 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 it's 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.

Type	Carrier & Harness Type	Pad Option	Escape Cylinder	MMR Regulator	Facepiece	Nosecup	Head Harness	Quick Disconnect	Case	QUANTITY
PC PremAire Cadet Escape	1 Nylon, strap carrier, standard size 2 Kevlar, strap carrier, standard size 3 Nylon, bag carrier, standard size 4 Kevlar, bag carrier, standard size Aluminum escape cylinders are not compatible with bag carriers	0 None 1 Shoulder	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	A Firehawk, Push-To-Connect, solid cover C Firehawk, Slide-To-Connect, solid cover Firehawk slide regulators are not compatible with Advantage 4000 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	0 None 1 Ultra Elite, medium 2 Ultra Elite, large Nosecup standard with Advantage 4000 Facepiece	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	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 SHD series 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, chrome	0 None 1 Hard plastic case	
A- PC										

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

### 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



Type	Carrier & Harness Type	Pad Option	Escape Cylinder	MMR Regulator	G1 Facepiece	Quick Disconnect	Case	QUANTITY
PCG PremAire Cadet Escape G1	1 Nylon, strap carrier, standard size 2 Kevlar, strap carrier, standard size 3 Nylon, bag carrier, standard size 4 Kevlar, bag carrier, standard size  <i>Aluminum escape cylinders are not compatible with bag carriers</i>	0 None 1 Shoulder	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	A G1 Regulator, purge cover	1 None 2 G1 Facepiece with 4-pt adjustable head harness, medium* 3 G1 Facepiece with 5-pt adjustable head harness, medium* 4 G1 Facepiece with rubber head harness, medium*	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	0 None 1 Hard plastic case	
A- PCG								

G1 PREMAIRE CADET ESCAPE RESPIRATORS	Part Number	Description
	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 facepiece 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

\*Facepiece includes nosecup, but does not include neckstrap.

## 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 nose cup 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 with Firehawk STC Regulator	10045164	PremAire System Complete Assembly w/ Firehawk Slide-To-Connect Regulator, 5-minute 3AL aluminum cylinder, right-hip model, with case
	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, nose cup
	10075910	10075904	10075916	silicone, rubber head harness, nose cup
	10075915	10075909	10075921	hycar, polyester net head harness, nose cup
	10075914	10075908	10075920	silicone, polyester net head harness, nose cup
ULTRA ELITE FACEPIECES for Firehawk PTC MMR Regulator	10037650	10037648	10037652	hycar, rubber head harness, nose cup
	10043417	10043413	10043431	silicone, rubber head harness, nose cup
	10037651	10037649	10037653	hycar, EZ-Don Head Harness, nose cup
	10043418	10043414	10043432	silicone, EZ-Don Head Harness, nose cup
	10043419	10043415	10043433	hycar, Speed-ON Head Harness, nose cup
	10043430	10043416	10043434	silicone, Speed-ON Head Harness, nose cup

### PremAire System Upgrades

ESCAPE CYLINDER KITS Includes carrier assembly, 1st-stage regulator, hose and cylinder	800696	Kit with fully-wound carbon fiber, 5-minute cylinder, for right hip
	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

Type	Belt Assembly	Escape Cylinders	Dual-Supply	MMR Regulator	Facepiece Type	Facepiece	Facepiece Size	Nosecup	Head Harness	Quick Disconnect*	Case	
PS PremAire System	1 Nylon 2 Urethane 3 Nomex	0 None 1 5-Min Right Hip Carbon 2 5-Min Left Hip Carbon 3 5-Min Right Hip Aluminum 4 5-Min Left Hip Aluminum 5 10-Min Right Hip Carbon 6 10-Min Left Hip Carbon 7 10-Min Right Hip Aluminum 8 10-Min Left Hip Aluminum	0 None 1 8" Hose less QD 2 15" Hose less QD	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 Bypass K Firehawk STC 42" No Bypass L Firehawk PTC 30" No Bypass M Firehawk PTC 42" No Bypass	0 None 1 Non-NFPA 2 NFPA <i>NFPA facepiece is Ultra Elite</i>	0 None 1 Ultra Elite, hycar 2 Ultra Elite, silicone E Advantage 4000, hycar F Advantage 4000, silicone <i>Firehawk slide (STC) regulators are not compatible with Advantage 4000 facepiece</i>	0 None S Small M Medium L Large	0 None (only if you have no FCPC) 1 Ultra Elite, medium 2 Ultra Elite, large <i>Nosecup standard with Advantage 4000 facepiece</i>	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	A None ♦ B Snap-Tite, aluminum C Snap-Tite, stainless steel D Snap-Tite, brass E Hansen, stainless steel F Hansen, brass G Foster, steel H Foster, stainless steel I Foster, brass J Cejn, locking, chrome	0 None 1 Hard case	
			<i>Must choose No Bypass option when ordering PremAire less an escape cylinder</i>					<i>♦ Unit requires use of a Quick-Disconnect to maintain approval</i>		<i>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.</i>		
C-	PS											QUANTITY

\* Unit requires use of a quick-disconnect for connection to air-line to maintain approval. All quick-disconnects listed are non-locking except for the Cejn chrome (J).  
Note: See p. 31 for air-line hoses.

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

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

## 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 complete information, see Bulletin 0114-28.



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

### 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 complete information, see Bulletin 0114-21.



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

### Cylinders

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

### Quick-Disconnects for Air-Line Respirators and Air-Supplied Hoods

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

### Quick-Disconnects and Adapters

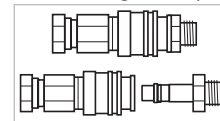
AL-Aluminum; S-Steel; SST-Stainless Steel; BR-Brass

QUICK-DISCONNECT TYPE	Interchangeability*	1	2	3	4	5*
		Female Socket 1/4" NPT	Male Plug w/Female 1/4" NPT	Union Adapter 1/4" NPT x 3/4" UNF	Male Plug w/Male 1/4" NPT (used when connecting Inlet Pressure Gauge)	Female Socket Assy. (used to connect Air-Supply Hose to Male Plug on Respirator)
SNAP-TITE (AL)	C	66272	66274	69542	66273	455019
SNAP-TITE (SST)	C	629673	629672	808358	629671	471778
SNAP-TITE (BR)	C	630305	630307	69542	630306	471777
HANSEN (SST)	A	628768	628208	808358	473502	471779
HANSEN (BR)	D	630311	630313	69542	630312	471501
FOSTER (S)	B	628770	55716	69542	56549	467044
FOSTER (SST)	B	636459	636460	808358	—	801016
FOSTER (BR)	A	629980	629981	69542	473501	470194
SCHRADER (S)	B	See Foster (S)	See Foster (S)	See Foster (S)	See Foster (S)	See Foster (S)
CEJN LOCKING (CHROME-PLATED—BR)	E	631870	479026	69542	479020	479001
CEJN LOCKING (CHROME)	E	—	479026	69542	479020	476956
SNAP-TITE LOCKING (AL)	F	—	479027	69542	—	479032
SNAP-TITE LOCKING (SST)	F	—	479028	808358	479022	479033
SNAP-TITE LOCKING (BR)	F	—	479029	69542	479023	479034
FOSTER LOCKING (SST)	D	636473	637851	808358	—	800805

### Locking Quick-Disconnects

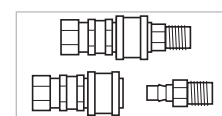
CEJN LOCKING	479009	CEJN Locking Quick-Disconnect Assembly, Socket and Plug (Chrome)
	476956	CEJN Locking Female Quick-Disconnect Socket (Chrome)
	476955	CEJN Locking Male (w/ Male 3/4" NPT) Quick-Disconnect Plug (Chrome)
SNAP-TITE LOCKING	479010	Snap-Tite Locking Quick-Disconnect Assembly, Socket and 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)

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

\*Fittings with the same letter code are interchangeable.

## 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
BREATHING AIR DISTRIBUTION SUPPLY HOSES FOR INLET PORTS <i>from plant air system to filtration box</i>	10113330	Hose, 50 feet, Industrial Interchange Connections, 1/2 inch NPT male and female
	10113341	Hose, 100 feet, Industrial Interchange Connections, 1/2 inch NPT male and female
	10113328	Quick-Disconnect Socket, Hansen Industrial, 1/2 inch male NPT
	10113329	Quick-Disconnect Plug, Hansen Industrial, 1/2 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



## Air-Line Accessories

### Approved Air-Supply Hose (3/8" 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

#### Air-Supply Hose Temperature Ranges

Neoprene	PVC	Nylon
-25° to 212°F	32° to 120°F	0° to 160°F



	Brass Hose Coupling	Stainless Steel Hose Coupling	Length
NEOPRENE AIR-SUPPLY HOSE	481071	481077	8 ft
	455020	481078	15 ft
	455021	481079	25 ft
	455022	481080	50 ft
PVC AIR-SUPPLY HOSE	481051	484225	8 ft
	471511	481057	15 ft
	471512	481058	25 ft
	471513	481059	50 ft
		481060	100 ft
COILED NYLON AIR-SUPPLY HOSE	491513 <sup>1</sup>	—	8 ft
	491514 <sup>1</sup>	—	15 ft
	491515 <sup>1</sup>	—	25 ft
	474043 <sup>1</sup>	—	50 ft

### 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 1/2" NPT female inlet and outlet	
488041	With 3/4"-16 straight threads	
484923	Replacement Filter Kit	

### 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



<b>PRESSURE REGULATOR</b>	<b>66716</b>	Pressure regulator
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### 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



	With Foster quick-disconnects	With Snap-Tite quick-disconnects	Less quick-disconnects
<b>MANIFOLDS 4-outlet</b>	<b>47370</b>	<b>93931</b>	<b>488914</b>
<b>MANIFOLDS 2-outlet</b>	<b>84416</b>	<b>486053</b>	<b>84418</b>

### 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, with Snap-Tite fitting	
476735	Inlet pressure gauge, with Foster or Schrader fitting	
476737	Inlet pressure gauge, with Hansen fitting	
492586	Inlet pressure gauge, less quick-disconnect <sup>2</sup>	

### Support Belts

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



SUPPORT BELTS		
9961	Web support belt (uncoated)	
473902	PVC support belt, clear	
492827	Polyurethane-coated nylon support belt, black	

<sup>1</sup>Recommended usable length 4–25 ft

<sup>2</sup>See Column 4 plug and Column 3 union on p. 29.

## 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	10190422	Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, hard case included
	10190423	Low-pressure 30-min. aluminum cylinder, nylon harness without padding and chest strap, medium G1 Facepiece with polyester head harness, no case
	10190471	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
	10190472	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.



### G1 Accessories

Part Number	Description
10144230	Spectacle kit for G1 Facepiece
10144231-SP	APR adapter for G1 Facepiece ( <i>single canister</i> )
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

# Respiratory Protection

## The Assemble-To-Order System for G1 Industrial SCBA

A	B	C	D	E	F	G	H	I	J	K	L	
SCBA Type	Harness Assembly	Harness Chest Strap	Cylinder Cradle	Cylinder	Cylinder Handwheel	MMR Regulator Type	Pressure Gauge	Air Line Attachment	Emergency Breathing System	Facepiece	Case	
1 2216 w/ threaded cylinder connection	1 Nylon harness, no padding	0 None 1 Chest strap	1 Fabric band cradle	A None B 3AL aluminum, 2216 psi C 30' carbon, 2216 psi D 3AL aluminum, less air, 2216 psi E 30' carbon, less air, 2216 psi F 30' carbon, 4500 psi G 45' carbon, 4500 psi H 45' carbon, low profile, 4500 psi J 60' carbon, 4500 psi K 30' carbon, less air, 4500 psi L 45' carbon, less air, 4500 psi M 45' carbon, low profile, less air, 4500 psi N 60' carbon, less air, 4500 psi	0 None 1 Non-locking 2 Locking  <i>Note: Only choose "none" if cylinder is not being purchased in Column E.</i>	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	1 Standard pressure gauge 2 Pressure gauge with Quick-Fill® 3 Pressure gauge with Quick-Fill, 3ft. hose w/Quick-Fill pouch	A None B Snap-Tite, aluminum C Snap-Tite, stainless steel D Snap-Tite, brass E Hansen, stainless steel, HK Series R 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	0 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	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	0 None 1 Hard case 2 Soft case	
A-G1IN												QUANTITY

Note: Regulator keeper is included with every unit. Facepiece clip is included on Kevlar harnesses only. Neckstrap is not included.

## AirHawk® II Industrial Air Mask

- Lightweight, durable, economical SCBA
- Pressure-demand maintains positive air pressure inside facepiece
- Options for many of system's major components include: facepiece; mask-mounted regulator; carrier and harness assembly; cylinder; and end-of-service-time indicator (EOSTI)
- Ergonomic carrier and harness assembly for comfortable, stable wear
- Detachable components for easy maintenance
- Easy-release friction buckles

	Hard Case	No Case	Facepiece	Harness Carrier	Cylinder
AIRHAWK II SCBA LOW-PRESSURE (2216 PSIG)	10095800	10095801	Ultra Elite, medium hycar, rubber head harness	Nylon, with chest strap	30-min aluminum
	10095802	10095803	Ultra Elite, medium hycar, Speed-ON Head Harness	Nylon, with chest strap	30-min carbon
	10095804	CALL	Adv 4000, medium hycar, polyester net head harness	Nylon, with chest strap	30-min aluminum
	CALL	10095805	Adv 4000, medium hycar, rubber head harness	Nylon, without chest strap	30-min aluminum
	10095806	10095807	Adv 4000, medium hycar, polyester net head harness	Nylon, with chest strap	30-min carbon
	CALL	10116783	No facepiece	Nylon, with chest strap	No cylinder
AIRHAWK II SCBA HIGH-PRESSURE (4500 PSIG)	10116452	CALL	Ultra Elite, medium hycar, Speed-ON Head Harness	Nylon, with chest strap	45-min carbon low profile
	10116453	CALL	Adv 4000, medium hycar, polyester net head harness	Nylon, with chest strap	45-min carbon low profile
	CALL	10116454	Adv 4000, medium hycar, polyester net head harness	Nylon, without chest strap	45-min carbon
	CALL	10116781	Adv 4000, medium hycar, rubber head harness	Nylon, without chest strap	30-min carbon
	CALL	10116782	No facepiece	Nylon, with chest strap	No cylinder



## 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



AirHawk SCBA air-line option

## The Assemble-To-Order System for AirHawk II Air Mask

SCBA Type	Carrier/Harness Assembly	Lumbar Pad/Rescue Belt†	Cylinder	MMR Regulator	Air-Line Options	Emergency Breathing System	Facepiece	Ultra Elite Nosecup	Head Harness	Communications	Gauge/Integrated PASS	Case	
L 2216 AirHawk II Air Mask	A AirFrame, Nylon Harness, Fabric Band, Plastic Buckle, Double Pull	0 None 1 Shoulder Pad 2 Standard Lumbar Pad 3 Shoulder & Standard Lumbar Pad	0 None 1 3AL Aluminum 3 30' Carbon 4 3AL Aluminum, less air 6 30' Carbon, less air	A Firehawk PTC, single hose, solid cover B Firehawk PTC, QC, solid cover, C Firehawk STC, single hose, solid cover D Firehawk STC, QC, solid cover S Firehawk PTC, threaded hose, solid cover	0 None 1 Snap-Tite Aluminum 2 Hansen SST 3 Hansen Brass 4 Foster Steel 5 Snap-Tite Locking Aluminum 6 Foster SST 7 Snap-Tite SST	0 None 1 Quick-Fill Shoulder Mounted 2 ExtendAire (EBS) with Dual Quick Connect Shoulder Mounted*	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	0 None 1 Medium 2 Large	0 None 1 Ultra Elite, rubber, less neckstrap 2 Ultra Elite, Speed-ON less neckstrap 3 Ultra Elite, rubber, with neckstrap 4 Ultra Elite, Speed-ON with neckstrap 5 Advantage 4000, rubber 6 Advantage 4000, poly net 7 Advantage 4000, Kevlar net	A None B Clear-Command ready C Clear-Command Amp D Clear-Command Amp/RI (Less PTT)	A Pressure Gauge F Pressure Gauge with HUD L HUD Only	0 None 1 Hard case 2 Soft case	
	H 4500 AirHawk II Air Mask	D AirFrame, Nylon Harness, Steel Band, Plastic Buckle, Double Pull, W/Chest Strap	N Recue Belt II, w/hook, 50' P Recue Belt II, w/carbinder, 50' R Recue Belt II, w/hook, Fire Tech Rope, 50' S Recue Belt II, w/carabiner, Fire Tech Rope, 50'	0 None 1 30' Carbon 2 45' Carbon 3 45' Carbon Low-Profile 4 60' Carbon 5 30' Carbon less air 6 45' Carbon less air 7 45' Carbon Low-Profile less air 8 60' Carbon less air	T Firehawk, STC, threaded hose, solid cover  <i>Firehawk slide (STC) regulators are not compatible with Advantage 4000 Facepiece</i>	<i>Cannot use air-line option if rescue belt is chosen</i>			<i>Nosecup standard with Adv. 4000 Facepiece</i>	<i>Neckstrap not available with Advantage 4000 Facepiece</i>	<i>Communications not compatible with Advantage 4000 Facepiece</i>		
		E AirFrame, Kevlar Harness, Fabric Band, Plastic Buckle, Double Pull											
		F AirFrame, Kevlar Harness, Fabric Band, Plastic Buckle, Double Pull, W/Chest Strap											
		G AirFrame, Kevlar Harness, Steel Band, Plastic Buckle, Double Pull											
		H AirFrame, Kevlar Harness, Steel Band, Plastic Buckle, Double Pull, W/Chest Strap											
		J AirFrame, Reflective Kevlar Harness, Steel Band, Metal Buckle, Single Pull											
		K AirFrame, Reflective Kevlar Harness, Steel Band, Metal Buckle, Double Pull											
		L AirFrame, Reflective Kevlar Harness, Steel Band, Metal Buckle, Single Pull, W/Chest Strap											
		M AirFrame, Reflective Kevlar Harness, Steel Band, Metal Buckle, Double Pull, W/Chest Strap											
		<i>Options J and L can only be chosen if a rescue belt option is selected</i>											
PART NUMBER													

NIOSH Approved.  
Non-NFPA Compliant.

QUANTITY

† Standard Rescue Belt fits waist sizes up to 54 inches.

\* NIOSH Approved, Non NFPA Compliant



**FIND THE  
HOT SPOTS.  
AND THE  
HEARTBEATS.**

*MSA provides personal thermal imaging to every firefighter—from 360 to rescue; egress to overhaul.*

**The FIRST and ONLY TIC Integrated Directly into the SCBA**

- No additional bulky equipment added to your facepiece or hanging from your gear
- Compatible with all G1 SCBA via simple field upgrade
- Powered by the G1 SCBA's single integrated power source—never check multiple battery locations again
- Single button functionality allows for simple, intuitive use

**Take Advantage of the Latest Technology**

- Lightweight—only adds 4.2 oz. compared to standard MSA G1 Control Module
- Up to five user-selectable palettes—10+ additional palettes available via MSA A2 Software
- 220 x 176 display ensures crystal clear images
- Compliant to the 2018 version of the NFPA 1981 and 1982 standards
- A full five-year warranty on thermal imager—Additional 15 years extended warranties available

## 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

### 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 color LCD 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*

### 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

### 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

### COMMUNICATIONS

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

### COMFORT

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

### 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

### 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

### 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

### 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

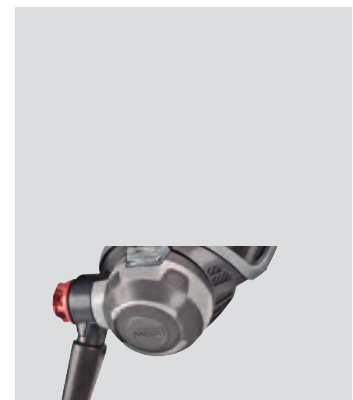
The MSA Assemble-To-Order System (ATO) makes ordering the right mask fast and easy. Instead of choosing from a handful of complete air mask assemblies, you can order a custom-made air mask with every option exactly as desired. Contact MSA Customer Service for details.

### Assemble-To-Order System for the **MSA G1 SCBA**

A	B	C	D	E	F	G	H	I	J	K	
System Pressure	Cylinder Connection	Harness	Cradle Type	Lumbar Type	Regulator Type	Regulator Hose Type	Emergency Breathing Support	Speaker Module	PASS	Battery Type	
<b>2</b> 2216 psig <b>4</b> 4500 psig <b>5</b> 5500 psig ♦	<b>2</b> CGA threaded remote connection <b>4</b> CGA quick-connect remote connection	<b>1</b> Standard without chest strap <b>2</b> Standard with chest strap <b>3</b> Serviceable tunnel without chest strap <b>4</b> Serviceable tunnel with chest strap <b>9</b> Serviceable tunnel without chest strap No PASS <b>10</b> Serviceable tunnel with chest strap No PASS	<b>M</b> Metal band	<b>A</b> Adjustable swiveling lumbar pad <b>B</b> Basic <b>C</b> Basic, solid buckle <b>D</b> Adjustable swiveling, solid buckle <b>E</b> Adjustable swiveling Berry-compliant, solid buckle <b>1</b> Rescue Belt II hook, 50' <b>2</b> Rescue Belt II carabiner, 50' <b>3</b> Rescue Belt II 50' FireTech rope, hook <b>4</b> Rescue Belt II, 50' FireTech rope, carabiner <b>5</b> Rescue Belt II, Lightning hook, 50' FireTech rope <b>6</b> Rescue Belt II, Lightning hook, 50' aramid/nylon rope <b>7</b> Rescue Belt II, Lightning GT hook, 50' FireTech rope <b>8</b> Rescue Belt II, Lightning GT hook, 50' aramid/nylon rope	<b>1</b> Purge cover left shoulder † <b>2</b> Solid cover left shoulder †	<b>C</b> Continuous <b>Q</b> Quick-connect	<b>0</b> None <b>1</b> Waist-mounted Quick-Fill ♦ <b>2</b> ExtendAire II <b>3</b> Waist-mounted Quick-Fill and ExtendAire II ♦ <b>4</b> Hose and pouch <b>5</b> Waist-mounted Quick-Fill with hose and pouch ♦ <b>6</b> ExtendAire II with hose and pouch <b>7</b> Waist-mounted Quick-Fill with hose and pouch, ExtendAire II ♦ <b>A</b> Pouch only	<b>L</b> Left chest †	<b>A</b> PASS right shoulder † <b>C</b> PASS telemetry right shoulder † <b>E</b> PASS right shoulder w/integrated TIC † <b>G</b> PASS telemetry right shoulder w/integrated TIC † <b>H</b> No PASS right shoulder †# <b>J</b> No PASS telemetry right shoulder †# <b>K</b> No PASS right shoulder w/integrated TIC †# <b>L</b> No PASS telemetry right shoulder w/integrated TIC †#	<b>A</b> Alkaline <b>R</b> Rechargeable* <i>If telemetry is ordered, R must be selected.</i>	
A-G1FS											QUANTITY

### Assemble-To-Order System for **MSA G1 SCBA Facepiece**

Application	Size	Material	Nosecup	Head Harness	Neckstrap	Regulator Connection	
<b>F</b> Fire	<b>S</b> Small <b>M</b> Medium <b>L</b> Large	<b>1</b> Hycar	<b>0</b> None <b>S</b> Small <b>M</b> Medium <b>L</b> Large	<b>0</b> None <b>4</b> 4-pt. adjustable <b>5</b> 5-pt. adjustable <b>R</b> Rubber	<b>0</b> None <b>C</b> Cloth <b>R</b> Rubber	<b>1</b> Fixed push-to-connect	
A-G1FP	F	1				1	QUANTITY



Note: Part numbered facepieces are also available.

♦ SCBA to SCBA Transfilling is not available with the 5500 psig operating system

† As worn

\* Charger sold separately

# Can only be combined with Harness option 9 or 10

# Self-Contained Breathing Apparatus (SCBA)

## 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

## MSA G1 SCBA Cylinders

### 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
4500 psig	30-minute	Threaded	10156423-SP	10156432-SP
4500 psig	45-minute LP <sup>1</sup>	Threaded	10156424-SP	10156433-SP
4500 psig	45-minute	Threaded	10156425-SP	10156434-SP
4500 psig	60-minute	Threaded	10156426-SP	10156435-SP
5500 psig	30-minute	Threaded	10185508	10185602
5500 psig	45-minute	Threaded	10185509	10185603
5500 psig	60-minute	Threaded	10185510	10185604



Threaded remote connection

NOTE: quick-connect cylinder adapter must be ordered for each cylinder separately. See p. 8 for quick-connect cylinder adapter part number.  
<sup>1</sup>Low profile version of the 45-minute, 4500 psig cylinder

### 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
4500 psig	30-minute	Quick-connect	10175707	10175712
4500 psig	45-minute LP <sup>2</sup>	Quick-connect	10175708	10175713
4500 psig	45-minute	Quick-connect	10175709	10175714
4500 psig	60-minute	Quick-connect	10175710	10175715
5500 psig	30-minute	Quick-connect	10181628	10181708
5500 psig	45-minute	Quick-connect	10181629	10181709
5500 psig	60-minute	Quick-connect	10181630	10181710



Quick-connect remote connection

<sup>2</sup>Low profile version of the 45-minute, 4500 psig cylinder

## 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



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 G1 SCBA Accessories

### 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	Filter adapter assembly
805078	Quick Chek® III Fit Test Adapter

### MSA G1 SCBA Rescue Accessories

Part No.	Description
10156464	ExtendAire® II System Kit for G1 SCBA
10156465	Waist-mounted Quick-Fill® System for G1 SCBA
10156466-SP	Replacement ExtendAire II System pouch for G1 SCBA
10156467-SP	Replacement Quick-Fill System pouch for G1 SCBA
10156468	3-ft. Quick-Fill System hose in pouch for G1 SCBA

### MSA G1 SCBA Accessories

Part No.	Description
10148740-SP	Replacement alkaline battery pack
10148741-SP	Replacement rechargeable battery pack
10158385	Rechargeable battery charging station
10149701-SP	Quick-connect adapter for 2216 psig cylinders
10149702-SP	Quick-connect adapter for 4500/5500 psig cylinders
10158389	Retainer Kit for H-30 carbon (807587) 4500 psig (Type 2 - dovetail)
10158390	Retainer Kit for H-45 LP carbon (10035644) 4500 psig (Type 3 - dovetail)
10158401	Retainer Kit for L-30 carbon (807586) 2216 psig (Type 4 - dovetail)
10158401	Retainer Kit for H-45 carbon (807570) 4500 psig (Type 4 - dovetail)
10158402	Retainer Kit for H-60 carbon (807588) 4500 psig (Type 5 - dovetail)
10158408	Quick-connect adapter for fill 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

# Self-Contained Breathing Apparatus (SCBA)

## M7XT Communications: Facepiece Assemblies for FireHawk M7XT Air Masks



### Ultra Elite® XT Facepiece

- Super-soft facepiece texture for smooth and comfortable fit
- Resists chemical attack and temperature extremes
- Withstands rugged day-to-day use without tearing and ripping
- Secure, comfortable fit
- Facepiece's Tufflens is molded from specially blended plastic and withstands high thermal environments; special super hardcoating resists scratches



### Firehawk® MMR

#### Attachment Option #1—Unique Slide-To-Connect (STC) System

- Allows firefighters to hang regulator on facepiece in “ready position,” then simply push it into facepiece when SCBA air is needed
- Two large release buttons automatically turn off air flow as the regulator is doffed
- Dual-swivel feature on pressure hose provides maximum head movement
- Silicone hose material ensures hose flexibility even at very cold temperatures

#### Attachment Option #2—Push-To-Connect (PTC) System

- PTC's adapter self-centers Firehawk Regulator
- Loud dual sound of regulator engaging onto facepiece provides confidence that Firehawk PTC is securely attached; action takes just seconds

### Ultra Elite XT Facepieces

	Small	Medium	Large	
FOR FIREHAWK STC MMR REGULATOR	10149305	10149283	10149327	External HUD receiver-ready
	10149307	10149285	10149329	External HUD and communication-ready
FOR FIREHAWK PTC MMR REGULATOR	10149306	10149284	10149328	External HUD receiver-ready
	10149309	10149286	10149330	External HUD and communication-ready

## SCBA Key Components: Facepiece Assemblies for FireHawk M7XT Air Masks



### MSA I-HUD Receiver for FireHawk M7XT Air Mask

- Wireless I-HUD Receiver contoured shape fits securely inside Ultra Elite XT Facepiece, eliminating snag points
- Nearly 40% lighter than external M7 HUD Receiver
- Unit automatically awakens and sleeps based upon pairing with SCBA
- Wireless magnetic radio transfers actual SCBA data via IEEE 802.11 network
- Enhanced light pattern for safety and security differentiation
- Powered by single, disposable CR2 lithium battery
- IP67-rated to withstand extreme hot and cold environments

**Note:** I-HUD Receiver is not compatible for use with FireHawk M7 Less PASS SCBA.

### I-Hud Receiver

I-HUD RECEIVER	10114190	For use with Ultra Elite XT Facepieces equipped w/Hycar rubber nose cups
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### I-Hud Receiver-Ready Ultra Elite XT Facepiece Assemblies

	Small	Medium	Large	
FOR FIREHAWK STC MMR REGULATOR	10149309	10149287	10149331	Standard I-HUD receiver-ready
	10149311	10149289	10149310	Communication system-ready
FOR FIREHAWK PTC MMR REGULATOR	10149310	10149288	10149332	Standard I-HUD receiver-ready
	10149312	10149290	10149334	Communication system-ready

## SCBA Accessories

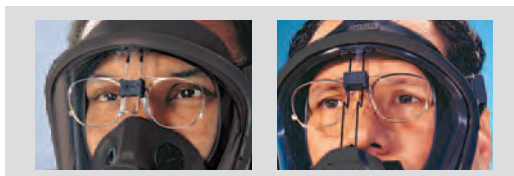
### Ultra Elite APR Adapter



- Switch from positive-pressure facepiece to negative-pressure air-purifying respirator
- Uses MSA's comprehensive line of air-purifying cartridges to protect against many airborne contaminants
- For use in non-IDLH environments and is NIOSH-approved
- Contact MSA for more information

	Firehawk MMR STC Version	Firehawk MMR PTC Version	
APR ADAPTERS	10032511	10040052	APR Adapter
	10032927	10040055	APR Adapter Individual Kit
	10032925	10040054	APR Adapter Truck Kit
ACCESSORIES	10037809	Ultra Elite Facepiece, anti-fog applique (10/pkg)	
	817590	CBA/RCA canisters (box of 6)	
	809858	Replacement baffle	
	813341	Replacement bayonet cover	
FIT TEST ADAPTER KITS	10107229	APR Fit Test Adapter Kit, slide-to-connect	
	10107256	APR Fit Test Adapter Kit, push-to-connect	

### Spectacle Kits



SPECTACLE KITS	804638	Ultra Elite Spectacle Kit (side wire support)
	493581	Ultra Elite Spectacle Kit (center support)

### Nosecups



NOSECUPS <i>for Ultra Elite Facepieces</i>	495188	Nosecup, medium, silicone
	495189	Nosecup, large, silicone
	10126378	Nosecup, medium, Hycar
	10126379	Nosecup, large, Hycar

## SCBA Key Components: FireHawk M7XT Carrier and Harness Assembly



The SCBA component with the most impact upon firefighter comfort is the carrier and harness assembly. FireHawk M7XT Carrier and Harness assembly emphasizes firefighter comfort while maintaining robustness and reliability expected for fire service use. Carrier is standard with large side handles and central attachment point for pulling firefighters to safety in rescue scenarios. Swiveling lumbar pad provides maximum freedom of movement and comfort when crawling or climbing.

Assembly employs proven components from previous generations of air masks, such as tunneled shoulder straps for hose containment and tri-bar slides for easy removal/installation of waist belt and shoulder straps. All units are equipped with double-pull waist belts; optional chest strap is available.

FIREHAWK M7XT CARRIER AND HARNESS ASSEMBLIES	10147448	Low-pressure, with chest strap
	10147449	High-pressure, with chest strap
	10147450	Low-pressure, with chest strap and swiveling lumbar pad
	10147471	High-pressure, with chest strap and swiveling lumbar pad
ACCESSORIES	10083134	Replacement FireHawk M7XT and M7 lumbar pad
	10012167	Chest strap kit

## SCBA Key Components: Emergency Egress System/MSA Rescue Belt II System



Rappel to safety with innovative, quick-release device for emergency egress. Ergonomically contoured, system easily stores rescue rope, hook or carabiner and descender. Ideal for extreme conditions, system features web management system that also integrates regulator holder. One belt fits all (up to 310 lbs., including equipment).

- Single-handed pouch opening for rapid deployment of hook and descender
- Termination knot easily releases under load, even with gloved hands
- Quick-release system for SCBA drop in emergency situations

RESCUE BELT II SYSTEM	10119369	With 50-ft. aramid/nylon rope and Crosby hook
For FireHawk M7XT	10119370	With 50-ft. aramid/nylon rope and carabiner
and M7	10119391	With 50-ft. FireTech 32 rope and Crosby hook
Air Mask Models	10119392	With 50-ft. FireTech 32 rope and carabiner

## SCBA Key Components: Cylinders for FireHawk M7XT Air Masks



### SuperLite Carbon Cylinders (4500 psig)

- As much as 12% lighter compared to traditional carbon cylinders, significantly decreasing SCBA weight burden
- Double-drawn, super lightweight cylinder liner combined with optimized carbon-based composite materials reduces cylinder weight while maintaining high strength-to-weight ratio

### Carbon-Wrapped Cylinders (2216 / 3000 psig)

- Unique outer-wrap made of lightweight, high-performance carbon fibers
- Carbon fibers reduce cylinder weight by two to six pounds when compared to fiberglass-wrapped cylinders and by as much as 10 pounds when compared to aluminum cylinders

### Aluminum Cylinders

- 30-minute low-pressure all-aluminum cylinder
- Cost less than carbon or hoop-wound cylinders
- Weigh approximately 18 pounds
- Well-suited to users who do not use SCBA frequently
- Offer indefinite service life

### Custom-Logoed Cylinders

For easy-to-read cylinder identification, MSA can place your department logo under the clear coat of any carbon cylinder.

Custom cylinder ordering is easy and efficient at [www.msafire.com](http://www.msafire.com).

Or, to place your order, simply contact your local MSA authorized fire service distributor, or contact MSA Fire Customer Service at 1-877-MSA-FIRE.

Part No.	Cylinder Type	NIOSH Service Life	Pressure
10127944-SP	H-30 SL, SuperLite Carbon	30-minute	4500 psig
10127945-SP	H-45 SL, SuperLite Carbon	45-minute	4500 psig
10149432-SP	H-45S SL, SuperLite Carbon, short	45-minute	4500 psig
10127946-SP	H-60 SL, SuperLite Carbon	60-minute	4500 psig
807586-SP	L-30* carbon-wrapped	30-minute	2216 psig
816115-SP	L-30+* carbon-wrapped	30-minute	3000 psig
809872-SP	Aluminum	30-minute	2216 psig

\*These cylinders allow for custom options.

## SCBA Key Components: Facepiece Communications for FireHawk M7XT Air Masks



### MSA Ultra Elite XT Communication System for MSA Facepieces

- Internally-mounted microphone coupled with large diameter (50.8mm) amplified speaker produces optimal voice clarity and volume
- Patented circuit design delivers STI scores (Speech Transmission Index) that exceed minimums of NFPA 1981-2013 Edition Standard requirements
- Profile-mounted system does not block vision or impede facepiece's fully functional mechanical voice communications

ULTRA ELITE XT COMMUNICATIONS	Part Number	Description
	10144673	Ultra Elite XT Amp w/ facepiece bracket and microphone
	10144676	Ultra Elite XT Amp / Radio Interface w/ facepiece bracket and microphone
	10144672	Ultra Elite XT Amp only
	10144675	Ultra Elite XT Amp / Radio Interface only
	10023055	Microphone Kit, with mounting bracket

### ClearCommand® Communications System

MSA's ClearCommand Communications System features internally mounted microphone coupled with large-diameter (50mm) amplified speaker for optimal clarity and volume. Using proprietary circuit design, system delivers more than twice the volume of facepiece alone, and doesn't block vision or mechanical communication.

CLEARCOMMAND SYSTEM KITS	Part Number	Description
	10024074	Amplifier Kit, complete with microphone
	10051290	Amplifier Radio Interface Kit, w/ microphone, less PTT
	10023055	Microphone Kit, with mounting bracket

## Radio Interface Kits for XT Amp and ClearCommand Communications

Brand	Radio Model	LM	PTT
BENDIX-KING	DPH-5102X, EPH, EPI, EPU, EPV, GPH, LPH, LPI, LPU, LPX, MPH	10042938	10045707
	5850, 5855, 5860, 5861, 5862, FM-5852, LX-2442/2443, ZX-2452/2453	10042942	10045711
E.F. JOHNSON	5100 series (511x, 5133, 514x, 518x)	10091194	10055501
	VIKING CL-500/5870/5876/5877/8560/8561/8565/8566/8570/8571/8587/8591, CH-HM91	10042943	10045712
GE ERICSSON	Jaguar 700P/700PI, P700IP/7150/7170, HT-7150S/7170T, HA8V5X	10068237	10070362
	500P, KPC	10042933	10045702
	Monogram	10042934	10045703
	GF (PACUDX), MPA, MPD, MTL, PAPST5, TPX	10042932	10045701
ICOM	IC-F14	10093301	
	IC-2A/2AT/2AE, ICH-2/6/12/16, ICU-2/6/12/16, IC-F11/F11S/F21/F21BR/F21S/F3033S	10042944	10045713
	IC-F30/30LT/40/40LT	10042946	10045715
	IC-F30GS/F30GT/F40GS/40GT	10058090	10067523
	IC-F50/F60/F70, M88, 4161	10072223	10064623
	Side connector IC-F3GS/F3GT/F4G-2/F4GT/F12/F12S/F22/F22S		10045714
	Top load IC-F3S/F4S/F10/F20	10042945	10045714

Continued on next page

# Self-Contained Breathing Apparatus (SCBA)

## Radio Interface Kits for XT Amp and Clear Command Communications

Continued from previous page

Brand	Radio Model	LM	PTT
KENWOOD	TK-190/280/290/290K/380/390/480/481/2140/2180/3140/3180/5210/5220, NX200/300/300K	10042941	10045710
	TK-208/220/240/248/250/260/270/270G/272/308/320/340/350/353/360/370/372/373G/430/2100-2/2160/ 2170/2200/2202/2302/2312/3101K/3160/3170/3173/3200/3202/3212/3360, TH-21/25A/41/45/75/ 91A/2102/ 3102, DEMITOSS 9 (JAPAN), FREETALK LINE	10042939	10045708
KYODO	KG-209	10093729	10093730
MACOM/HARRIS	P5100/5130/7100/7150/7200	10068237	10070362
	P5300/5400/7300, XG-25/75	10126347	10128997
MAXON	PL-1145/2245/5161/5164		10061404
	SP-2000 Series, SP-2550/2850, SL-70W	10042947	10045716
	SP-5000 Series, CP-0500 Series	10042948	10045717
MIDLAND	70-145/148/154/245/254	10042951	10045720
	70-153	10042949	10045718
	70-165/166/265/266	10042950	10045719
	70-195/295	10042952	10045721
MOTOROLA	GP-900, HT-1000, JEDI, JT-1000, MT-1500/2000, MTS-2000, MTX, MTX-838/839/2000/8000/9000 Transcrypt Stealth, PR1500, PTX-1200/3600, XTS-1500/2250/2500/3000/3500/5000/5000R	10042903	10045662
	APX-5000/6000/7000, DGP-6150+, XPR-6500/6550/6580/7350/7380/7550/7580	10092733	10108643
	270, 280, FR-50/60, 289/5100/5200/5300/5320/5400/5410/5420/5600/5620/5700/5720/5800/5820/6200/6210/6220/6250/6300/6310/6320/6400/7200, Talk About	10061629	10061630
	AXU-4100, CP-100, SP-10/21		10059441
	EX-500/560/600	10053716	10057505
	EXPO, HT-10, RADIUS P10/50	10042924	10045693
	GP-350	10042930	10045699
	GP-350 (QD)	10042931	10045700
	HT-50/90/440, RADIUS P100	10042925	10045694
	GP-328/329/338/339/340/360/680, HT-750/1250/1550/1550-XLS, MTX-850/ 850-LS/950/4550/8250/8250-LS/ 9250, PR-860, PRO 5150/7150/7350/7550/9150, PTX-700/760/780	10042922	10045691
	GP-328 (QD), HT-750 (QD)/1250 (QD), PRO 5150 (QD)	10042923	10045692
	MT-500	10042928	10045697
	MX-300/310/320/340/350/360	10042927	10045696
	AP-73, CLS Series, CP-150/200/300, CT-150/185/250/250LS/450/450LS, EP-450, GP-63/68/88/ 300/308/2000, GTX, GTX-8250, LTS-2000, MAG ONE A-8, MTX-638, P110/1225, MU-21CV/21CZ, PR-400, PRO 2150/3150, SP-10/ 21/50, SPIRIT-111, SPIRIT-Pro, SU-21C, XTN Series, XTV-2100, XU-2100, XV-1100, XZ-1100	10042905	10045664
	VISAR	10042926	10045695
RELM/SMARTCOM	Minicom 3200, MPS, MPU-08B/32, MPV-08/32, WHS150	10042953	10045722
RITRON/JOB COM	JBX-151, JMX-100/400 Series, RTX-150/450, SST Series	10042954	10045723
STANDARD	HX-240U/V	10042935	10045704
	HX-320	10042936	10045705
	HX-381/482/580T/581T/582T/585T/587T	10042937	10045706
TEKK	T-20/40/50/60	10042955	10045724
UNIDEN	SPH Series, SPU Series	10042956	10045725
	SPS-310T/320TS	10042957	10045726
VERTEX	VX-2R/160/180/210/417/420/424/427/454	10058088	10073293
YAESU-VERTEX	FT-11R/41R/416/816, FTH-2005/2008/2009/7005/7008/7009	10042958	10045727
	FT-76	10042962	10045779
	FTH-2070	10042960	10045729
	F-10/40/50, FT-50R, VX-10/300, VX-400, VXF Series	10042959	10045728
	VX-500/510	10042961	10045730
	VX-600/600U/600UB/600V/600VB/800/900	10058089	10061244



## ClearCommand Helmet Communication System



- Virtually eliminates high ambient noise levels via bone-conduction voice transmitter
- Maintains transmission quality through facepiece head harness, hood and liner
- Intrinsically safe for use in hazardous environments
- Easily snaps onto fire helmet ratchet
- Quickly transfers from one helmet to another without tools
- Configures for use over either ear
- Connects to MSA lapel microphone and PTT
- Includes flannel pad for cushioning

### Helmet Microphone Assembly

<b>HELMET MICROPHONE ASSEMBLY</b>	<b>10042902</b>	Helmet Microphone Assembly (includes custom-fitted flannel headband liner)
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See pp. 45–46 for lapel mics, PTTs and accessories.

### Parts and Accessories for ClearCommand Communication Systems

<b>PARTS AND ACCESSORIES</b>	<b>10046087</b>	Dust cover
	<b>10046123</b>	Guard ring, tall
	<b>10046122</b>	Guard ring, short
	<b>10046120</b>	Belt clip assembly
	<b>10046121</b>	O-ring, single-pin connector
	<b>10045778</b>	Flannel headband liner

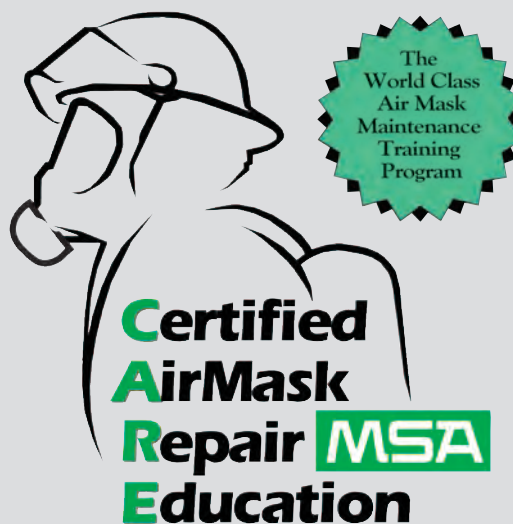
## Field Maintenance and Repair

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.



# Self-Contained Breathing Apparatus (SCBA)

## MSA Accountability System

### A new way to monitor vital information

- Each MSA base station can monitor as many as 50 firefighters; multiple base stations can be used on a single computer.
- MSA G1 SCBA or FireHawk M7XT/M7 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 alarm through MSA G1 SCBA or FireHawk M7XT/M7 Air Mask, they'll know that the firefighter received it, as unit automatically sends confirmation message to the base station.
- 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 base station 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.

## Emergency Breathing Systems

### Quick-Fill® System

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

- Fill SCBA cylinder from mobile compressor or cascade system in less than a minute.
- Transfill between two cylinders, providing emergency breathing system.
- Extend air supply over longer durations, using remote compressed-air source.



### ExtendAir™ II System

MSA G1 ExtendAir II System is an Emergency Breathing Supply System (EBSS) accessory that uses intermediate-pressure air to provide firefighters with emergency breathing air by allowing firefighters to quickly and easily interconnect to fellow firefighter's air supply. System integrates into G1 SCBA, providing unrestricted mobility and easy access during emergency situations. Locking quick-connects with integrated check valve prevent contamination of breathing air pathway by ambient atmosphere. G1 ExtendAir II System features integrated rescue hose and manifold assembly that uses both male and female quick-connect fittings, and stows in low-profile pouch that mounts on carrier assembly. G1 ExtendAir II System is NIOSH-approved and NFPA 1981-2018 edition-compliant.

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

QUICK-FILL SYSTEM REPLACEMENT PARTS <i>For MSA G1 SCBA</i>	10156467	Replacement Quick-Fill pouch for MSA G1 SCBA
	10156468	3-ft. Quick-Fill hose in pouch for MSA G1 SCBA
	10156465	Waist-mounted Quick-Fill for MSA G1 SCBA
QUICK-FILL SYSTEM REPLACEMENT PARTS <i>For M7XT and M7 SCBA</i>	10111642	Quick-Fill Hose Kit in pouch, 3-ft. emergency transfill hose
	485331	Emergency transfill hose, less Kevlar pouch
	10111404	Replacement pouch for Quick-Fill or ExtendAir II
	485391	Male stainless steel quick-disconnect with SAE-10 thread, complete with dust cover (also for use as fitting for customized refilling systems)
	485392	Female quick-disconnect with SAE-4 thread, complete with dust cover

EXTENDAIRE II SYSTEM	10205767	G1 ExtendAir II System Conversion Kit, UEBSS, 2018 Ed.
	10203820	Replacement pouch for G1 ExtendAir II System, UEBSS, 2018 Ed.
	10156464	G1 ExtendAir II System Conversion Kit, 2013 Ed.
	10156466-SP	Replacement pouch for G1 ExtendAir II System, 2013 Ed.

	25-ft.	12-ft.	10-ft.	8-ft.	6-ft.	3-ft.	
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.

# Self-Contained Breathing Apparatus (SCBA)

## RescueAire™ II Portable Air-Supply System



The RescueAire II Portable Air-Supply System meets the needs of Rapid Intervention Teams (RITs). System consists of lightweight carbon-wrapped cylinder, Quick-Fill System and ExtendAire System for emergency breathing and MMR regulator, supported by flame- and heat-resistant harness, available in both low-pressure (2216 psig) and high-pressure (4500 psig) versions.

Part No.	SCBA Type	Cylinder
<b>High-pressure (4500 psig)</b>		
10161130	G1 SCBA	60-minute cylinder
10100097	Firehawk Responder MMR	H-60 cylinder
10041195	Firehawk STC MMR	H-60SL cylinder
10041199	Firehawk PTC MMR	H-60SL cylinder
10161142	G1 SCBA	Less cylinder
10100094	Firehawk Responder MMR	Less cylinder
10041197	Firehawk STC MMR	Less cylinder
10041231	Firehawk PTC MMR	Less cylinder
<b>Low-pressure (2216 psig)</b>		
10161141	G1 SCBA	30-minute cylinder
10100096	Firehawk Responder MMR	L-30 cylinder
10041196	Firehawk STC MMR	L-30 cylinder
10041230	Firehawk PTC MMR	L-30 cylinder
10161143	G1 SCBA	Less cylinder
10100095	Firehawk Responder MMR	Less cylinder
10041198	Firehawk STC MMR	Less cylinder
10041232	Firehawk PTC MMR	Less cylinder

## MSA G1 RIT System

MSA G1 RIT System has everything needed for RIT response. Internal pneumatics includes G1 RIT System quick-connect pressure reducer that mounts directly onto user-supplied SCBA cylinder. Two pneumatic supply lines are provided. All G1 RIT System pneumatics are stored in durable rescue bag constructed from Ultra-Tough Iron Cloth and features Heat-Shield Skid Plate. Skid plate allows bag to glide over rough surfaces, protecting textile components and offering extreme durability for repetitive use. Innovative access-hatch provides quick, easy access to spare facepiece and cylinder valve assembly. 60" adjustable shoulder strap can be re-positioned for carrying, dragging or lowering G1 RIT System. System is available in 2216, 4500, or 5500 psi operating pressures. Cylinders sold separately.

### Features

- 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; features male and female locking quick-disconnects
- Quick-connect second-stage G1 MMR
- Remote external gauge for easy cylinder pressure readings
- Medium 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

Part No.	Operating Pressure	Description
10206310	2216 psig	G1 RIT System, 2216, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect
10169710	2216 psig	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect
10206311	4500 psig	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Thread Connect
10206313	4500 psig	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect
10169711	4500 psig	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect
10192465	4500 psig	G1 RIT System, 4500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Thread Connect
10206312	5500 psig	G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (UEBSS, 2018 ed.), remote gauge, URC, Quick-Connect
10197179	5500 psig	G1 RIT System, 5500, FCPC, Regulator, 6-Ft Quick-Fill & ExtendAire II Systems (2013 ed.), remote gauge, URC, Quick-Connect

**Note:** This RIT system does NOT include cylinder. Please see cylinder ordering information on p. 40.

## 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 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 p. 40 or p. 44 for cylinder ordering information. 60-minute cylinders provides maximum air supply.

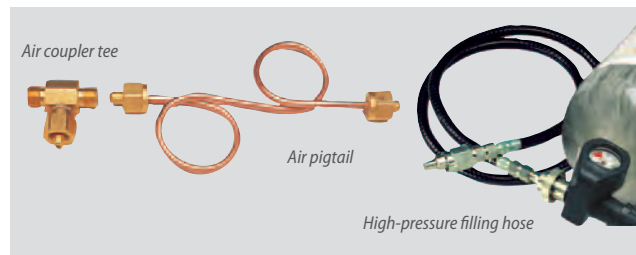
TECHNICAL RESCUE CART	PN	Description
	10107535	Technical Rescue Cart equipped with <b>union</b> adapters
	10107818	Technical Rescue Cart equipped with <b>Snap-Tite aluminum</b> quick-disconnects
	10107820	Technical Rescue Cart equipped with <b>Foster steel</b> quick-disconnects
	10107819	Technical Rescue Cart equipped with <b>Hansen brass</b> quick-disconnects

## Cleaning Accessories



CLEANING ACCESSORIES	PN	Description
	10009971	MSA Confidence Plus 2 Germicidal Cleaner, 32 oz. bottle
	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"

## Other SCBA Accessories



ACCESSORIES FOR FILLING LOW-PRESSURE CYLINDERS	PN	Description
	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)

*Expect more from your gas detection program*

Confidently protect your coworkers with real-time safety alerts, reports & insights.

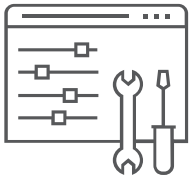
## Focus on safety, not detectors

Gas detection is a key part of your safety program—and a wise investment. However, many of your peers admit that they are frustrated, because their detectors or long-term contracts don't deliver on their promised value or support. They are also distracted from achieving their bigger safety goals, because they have to waste time fixing detectors or negotiating for replacements and better service.

*You deserve better, and we can help.*

*Introducing the Safety io Grid.*

Transform your detection program from a headache into an empowering safety platform by combining best-in-class MSA detectors, test equipment and support with insights from web-based Safety io Grid services.



### Fleet Manager

*(Formerly MSA Link Pro software)*

- Assess, address and share your MSA fleet status—all from your browser
- Secure web-based setup & access
- IT-free maintenance
- Incident and compliance awareness & reports
- Detector & test equipment management
- Works with MSA detectors & GALAXY GX2 test banks

To schedule a demo visit  
[safetyio.com](https://safetyio.com)



### Live Monitor

*(Formerly MSA ALTAIR Grid)*

- Secure web-based setup & access
- IT-free maintenance
- Real-time worker health & safety notifications
- Incident & compliance awareness, management & reports
- Exclusively for your ALTAIR 4XR & 5X detectors

To schedule a demo visit  
[safetyio.com](https://safetyio.com)

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

- Built upon durability
- Powered by performance
- Flexibility & connectivity
- Industry-first man-down alarm



- Bluetooth wireless connectivity
- Altair Connect App available on Google Play
- Industry-leading warranty
- Online product simulation and training



DESCRIPTION	UL P/N	CSA P/N
<b>INSTRUMENT ONLY KITS</b>		
ALTAIR 5X DETECTOR MONO, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)	10116924	10115118
ALTAIR 5X DETECTOR MONO, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, SO <sub>2</sub> )	10116925	10115119
ALTAIR 5X DETECTOR COLOR, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, PID)	10165445	
<b>STANDARD KITS - MONOCHROME DISPLAY, 10-FT SAMPLING LINE, 1-FT PROBE</b>		
ALTAIR 5X DETECTOR MONO, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)	10116926	10115120
ALTAIR 5X DETECTOR MONO, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, SO <sub>2</sub> )	10116927	10115141
<b>DELUXE KITS - COLOR DISPLAY, 10-FT SAMPLING LINE, 1-FT PROBE</b>		
ALTAIR 5X DETECTOR COLOR, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)	10116928	10115142
ALTAIR 5X DETECTOR COLOR, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, SO <sub>2</sub> )	10116929	10115143
ALTAIR 5X DETECTOR COLOR, (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, PID)	10165446	

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



GAS TYPE	RANGE	RESOLUTION
COMBUSTIBLE	0-100% LEL	1% LEL
COMBUSTIBLE	0-5% Vol, CH <sub>4</sub>	0.05% Vol CH <sub>4</sub>
OXYGEN	0-30%Vol	0.1%Vol
CARBON MONOXIDE	0-2000 ppm	1 ppm
CARBON MONOXIDE	0-10,000 ppm	5 ppm
HYDROGEN SULFIDE	0-200 ppm	1 ppm
HYDROGEN SULFIDE - LC	0-100 ppm	0.1 ppm
SULFUR DIOXIDE	0-20 ppm	0.1 ppm
CHLORINE	0-10 ppm	0.05 ppm
AMMONIA	0-100 ppm	1 ppm
NITROGEN DIOXIDE	0-20 ppm	0.1 ppm
NITROGEN DIOXIDE (XCELL)	0-50 ppm	0.1 ppm
CHLORINE DIOXIDE	0-1 ppm	0.01 ppm
PHOSPHINE	0-5 ppm	0.05 ppm
HYDROGEN CYANIDE	0-30 ppm	0.5 ppm
CARBON DIOXIDE, CO <sub>2</sub>	0-10%Vol	0.01%Vol
BUTANE, C <sub>4</sub> H <sub>10</sub>	0-25%Vol	0.1%Vol
METHANE, CH <sub>4</sub>	0-100%Vol	1%Vol
PROPANE, C <sub>3</sub> H <sub>8</sub>	0-100%Vol	1%Vol
PROPANE, C <sub>3</sub> H <sub>8</sub>	0-100% LEL	1% LEL
PID - 10.6EV	0-2000 ppm	0.1 ppm
PID - 10.6EV	0-10,000 ppm	1 ppm



## ALTAIR 5X Multigas Detector with PID option

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

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

<b>A</b>	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.	<b>Instrument Type</b> Pumped with monochrome display A Pumped with color display B Pumped with color display for PID (unit must be configured with PID sensor) D	<b>Code</b> A B D	Selection
<b>B</b>	COMBUSTIBLE SENSOR	Choose your combustible sensor calibration. To select 0-100% LEL pentane, please choose <b>L</b> ; for 0-5% Vol methane choose <b>M</b> . For no combustible sensor, select <b>0</b> for none.	<b>Combustible Sensor Options</b> None 0 LEL 1- 100% pentane L 0-5% Vol methane M	<b>Code</b> 0 L M	Selection
<b>C</b>	SENSOR #1	To have an oxygen sensor installed in your new ALTAIR 5X Multigas Detector, please select <b>K</b> ; if you plan on configuring the ALTAIR 5X Detector with two exotic sensors with CO/H <sub>2</sub> S, please select <b>1</b> for both CO and H <sub>2</sub> S sensors; for no sensor enter <b>0</b> .	<b>Sensor #2 Options</b> None 0 Oxygen 0-30% K CO/H <sub>2</sub> S 0-1999 ppm & 0-200 ppm 1 CO 0-1999 ppm 2 H <sub>2</sub> S 0-200 ppm 3 CO/H <sub>2</sub> S-LC 0-1999 ppm & 0-99.9 ppm 4 CO-HC 0-10,000 ppm 5 CO/NO <sub>2</sub> 0-1999 ppm & 50 ppm 6 CO H <sub>2</sub> -ResH <sub>2</sub> S 0-1999 ppm & 0-200 ppm 7	<b>Code</b> 0 K 1 2 3 4 5 6 7	Selection
<b>D</b>	SENSOR #2	Choose your toxic gas sensor.	<b>Sensor #3 Options</b> None 0 SO <sub>2</sub> 0-20 ppm A Cl <sub>2</sub> 0-10 ppm B NO <sub>2</sub> 0-20 ppm C NH <sub>3</sub> 0-100 ppm D PH <sub>3</sub> 0-5 ppm E HCN 0-30 ppm F ClO <sub>2</sub> 0-1 ppm G NO 0-200 ppm H	<b>Code</b> 0 A B C D E F G H	Selection
<b>E</b>	SENSOR #3	Choose your additional toxic gas sensors.	<b>Sensor #4 Options</b> None 0 CO/H <sub>2</sub> S 0-1999 ppm & 0-200 ppm 1 CO 0-1999 ppm 2 H <sub>2</sub> S 0-200 ppm 3 CO/H <sub>2</sub> S-LC 0-1999 ppm & 0-99.9 ppm 4 CO-HC 0-10,000 ppm 5 CO/NO <sub>2</sub> 0-1999 ppm & 50 ppm 6 CO H <sub>2</sub> -ResH <sub>2</sub> S 0-1999 ppm & 0-200 ppm 7 SO <sub>2</sub> 0-20 ppm A Cl <sub>2</sub> 0-10 ppm B NH <sub>3</sub> 0-100 ppm D H <sub>2</sub> S 0-200ppm 3 H <sub>2</sub> S-LC 0-100ppm 4	<b>Code</b> 0 1 2 3 4 5 6 7 A B D 3 4	Selection
<b>F</b>	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.	<b>Advanced Sensor Options</b> None 0 10.6eV 0-2000 ppm 1 10.6eV 0-10,000ppm 2 CO <sub>2</sub> 0-10% Vol B Methane 0-100% Vol L Propane 0-100% Vol F Propane 0-100% LEL P	<b>Code</b> 0 1 2 B L F P	Selection



## ALTAIR 5X Multigas Detector with PID option

### ALTAIR 5X Assemble-To-Order (ATO) Options *(continued)*

<b>G</b>	<b>PACKAGING</b>	For an economy plastic carrying case, choose <b>E</b> ; for red, choose <b>R</b> ; for standard carton packaging, choose <b>0</b> .	<b>Packaging Options</b>	<b>Code</b>	Selection
			Standard carton Economy plastic Red economy	0 E R	
<b>H</b>	<b>APPROVAL LABEL</b>	Choose the applicable approval label for your area. For North America, choose <b>C</b> , for Europe choose <b>E</b> , for Australia, choose <b>A</b> .	<b>Approval Label Options</b>	<b>Code</b>	Selection
			NORTH AMERICA UL only <i>(catalytic combustible sensor not required)</i> Europe ATEX Australia	C T E A	
<b>I</b>	<b>LOGO EXPRESS® SERVICE</b>	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 <b>L</b> 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.	<b>Logo Express® Service Options</b>	<b>Code</b>	Selection
			None Logo Express Service	0 L	
<b>J</b>	<b>SAMPLING LINE AND PROBE KIT</b>	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 Cl <sub>2</sub> , ClO <sub>2</sub> and/or NH <sub>3</sub> , please select option <b>2</b> ; for all other gases select options <b>A</b> or <b>1</b> . Options 1 and 2 come with quick disconnect sampling lines and probes. For no sampling line or probe, select <b>0</b> .	<b>Sampling Line and Probe Kit Options</b>	<b>Code</b>	Selection
			None 1-ft clear probe and 10-ft PU Line 1-ft probe and 10-ft PU line w/ QD 1-ft probe and 10-ft teflon line w/ QD <i>(reactive gases)</i>	0 5 1 2	

#### Your Model Part Number

Please write in numbers from selections above in appropriate boxes and contact your safety products distributor to place your order.

Selection      A      B      C      D      E      F      G      H      I      J

A-ALT5X-



## 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
- IP68: waterproof to 6 ft (2 m) for 1 hr
- Temperature: -40° F (-40° C) to +140° F (+60° C)

### Real-Time Connectivity using Bluetooth Technology

- Bluetooth Standard
- ALTAIR Connect App available for Android devices   Google Play
- 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	ALTAIR 4XR GAS DETECTORS – NORTH AMERICAN CONFIGURATION	PART NO.
	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S (CHARCOAL)	10178557
	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S (GLOW)	10178558
	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S (GLOBAL CHARGER & CHARCOAL)	10178560
	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S (GLOBAL CHARGER & GLOW)	10178571
	LEL, O <sub>2</sub> , CO, H <sub>2</sub> S-LC (CHARCOAL)	10178572
	LEL, O <sub>2</sub> , CO-H <sub>2</sub> , H <sub>2</sub> S (CHARCOAL)	10179330
	LEL, O <sub>2</sub> , CO (CHARCOAL)	10178566
	LEL, O <sub>2</sub> , CO (GLOW)	10178567
	LEL, O <sub>2</sub> (CHARCOAL)	10178568
	LEL, O <sub>2</sub> (GLOW)	10178559
<b>CERTIFICATIONS/APPROVALS</b>		
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	

### MSA ALTAIR Connect App

MSA's integrated Bluetooth connectivity enables scalable solutions that eliminate the need for costly investments in wireless infrastructure.



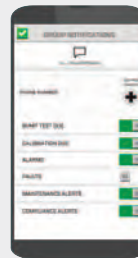
Android-based Bluetooth connectivity is the basis for these solutions. By incorporating Bluetooth as a standard feature in select portable gas detectors, MSA offers wireless safety benefits to everyone.

By downloading the MSA ALTAIR Connect App from Google Play and pairing with any compatible Android device, your gas detector can be turned into an enhanced safety and productivity tool.



#### SAFETY AWARENESS

- Receive gas detection readings, alarms and man-down alerts
- Send emergency SMS text notifications with GPS location# to single or group recipients
- Short-range replication of live instrument readings



#### MAINTENANCE AND OPERATIONAL SUPPORT

- Configure instruments remotely, without the need for a PC
- View and email# event record



#### IMPROVED SAFETY MANAGEMENT AND COMPLIANCE

- View and email calibration certifications
- Awareness of lone worker or remote instrument events
- Platform allows for integration of third-party engineered systems or subscription safety services

# ALTAIR 4XR Multigas Detector

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

	PART	CODE	OPTION DESCRIPTION	
<b>A</b>	COMBUSTIBLE SENSOR	0 L M	None 1-100% LEL Pentane 0-5% Vol Methane	Selection
<b>B</b>	OXYGEN SENSOR	0 1	None 0-30% Vol	Selection
<b>C</b>	TOXIC SENSOR	0 A B C G H J K L	None 0-1999 ppm CO and 0-200 ppm H <sub>2</sub> S 0-1999 ppm CO 0-200 ppm H <sub>2</sub> S 0-1999 ppm CO and 0-99.9 ppm H <sub>2</sub> S-LC 0-99.9 ppm H <sub>2</sub> S-LC 0-1999 ppm CO and 0-50 ppm NO <sub>2</sub> 0-99.9 ppm H <sub>2</sub> S-LC and 0-20 ppm SO <sub>2</sub> 0-1999 ppm CO H <sub>2</sub> -Res and 0-200 ppm H <sub>2</sub> S	Selection
<b>D</b>	POWER SUPPLY	0 N M E A G	None North American North American with cradle European with cradle Australian with cradle Global	Selection
<b>E</b>	APPROVAL LABEL	C E A	North America Europe ATEX Australia	Selection
<b>F</b>	WARRANTY	0 1	4-year standard warranty 1-year extended warranty (5-years total)	Selection
<b>G</b>	PACKAGING	0 1	Single carton 10-unit bulk package	Selection
<b>H</b>	COLOR CASE	0 G	Standard Charcoal Glow-in-the-Dark	Selection

Your Model Part Number — Please write in selected codes from above in appropriate boxes and contact your safety products distributor to place your order.

Selection


A-ALT4XR-



## ALTAIR 5XM Detector (MSHA)

- Industry-first O<sub>2</sub>, CO, H<sub>2</sub>S, and SO<sub>2</sub> 60-second span calibration and 10-second bump test time
- Thick rubberized housing provides a non-slip profile for secure grip, easily surviving a 10-ft drop
- MotionAlert feature activates when unit does not detect movement for 30 seconds, indicating “man down”
- InstantAlert feature offers manual activation of all alarms to alert others to potentially hazardous situations
- Minimum IP65 rating for dust and water ingress
- Monochrome display provides easy-to-read sensor readings with adjustable contrast
- Multi-language capability to serve your needs virtually anywhere in the world, using one of many built-in languages
- GALAXY GX2 System-compatible for automatic testing, calibration and record keeping
- Lithium-ion battery pack provides over 18 hours of run time with virtually no memory effects and fast battery recharge
- MSA Link Software allows all stored records to be easily accessed for printed calibration reports and alarm set-point changes
- Visual, vibrating and audible alarms grab user’s attention, indicating a potentially hazardous situation
- Large, ergonomically-designed buttons ensure easy reach and operation, even with gloved hands

**ALTAIR 5X MSHA Multigas Detector, with quick-start card, data logging, charger, calibration tubing. CD manual.**

ALTAIR 5X MSHA MULTIGAS DETECTOR	DESCRIPTION	PART NO.
	INSTRUMENT ONLY	
	ALTAIR 5X DETECTOR MONO, (CH <sub>4</sub> , O <sub>2</sub> , CO)	10189797
	ALTAIR 5X DETECTOR MONO, (CH <sub>4</sub> , O <sub>2</sub> , CO, NO <sub>2</sub> )	10189546
	INSTRUMENT KITS - MONOCHROME DISPLAY, 10-FT SAMPLING LINE, 1-FT PROBE	
	ALTAIR 5X DETECTOR MONO, (CH <sub>4</sub> , O <sub>2</sub> , CO, CO <sub>2</sub> )	10190085
	ALTAIR 5X DETECTOR MONO, (CH <sub>4</sub> , O <sub>2</sub> , CO, CH <sub>4</sub> IR)	10190086



30 CFR Part 22, Methane Detector  
 30 CFR Part 75 Determination testing for methane and oxygen deficiency

**Other MSA Products for Mining Applications**

- For ALTAIR 4X MSHA, see page 60.
- For miner’s cap lamp and support system, see page 84.
- For self-rescuer respirator, see page 17.

### ALTAIR 5XM Assemble-To-Order (ATO) Options

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

A	<b>INSTRUMENT TYPE</b>	All ALTAIR 5X MSHA Multigas Detectors come standard with data logging and MotionAlert and InstantAlert features.	<table border="0"> <tr> <td><b>Instrument Type</b></td> <td><b>Code</b></td> </tr> <tr> <td>Pumped with monochrome display</td> <td>A</td> </tr> </table>	<b>Instrument Type</b>	<b>Code</b>	Pumped with monochrome display	A	Selection																								
<b>Instrument Type</b>	<b>Code</b>																															
Pumped with monochrome display	A																															
B	<b>COMBUSTIBLE SENSOR</b>	To have a combustible sensor installed in your new ALTAIR 5XM Multigas Detector, please select <b>C</b> . For no combustible sensor, please select <b>0</b> .	<table border="0"> <tr> <td><b>Combustible Sensor Options</b></td> <td><b>Code</b></td> </tr> <tr> <td>None</td> <td>0</td> </tr> <tr> <td>0-5% Vol methane</td> <td>C</td> </tr> </table>	<b>Combustible Sensor Options</b>	<b>Code</b>	None	0	0-5% Vol methane	C	Selection																						
<b>Combustible Sensor Options</b>	<b>Code</b>																															
None	0																															
0-5% Vol methane	C																															
C	<b>SENSOR #1</b>	To have an oxygen sensor installed in your new ALTAIR 5X Multigas Detector, please select <b>K</b> ; if you plan on configuring the ALTAIR 5X Detector with two exotic sensors with CO/H <sub>2</sub> S, please select <b>1</b> for both CO and H <sub>2</sub> S sensors; for no sensor enter <b>0</b> .	<table border="0"> <tr> <td><b>Sensor #2 Options</b></td> <td><b>Code</b></td> </tr> <tr> <td>None</td> <td>0</td> </tr> <tr> <td>Oxygen</td> <td>0-30%</td> <td>K</td> </tr> <tr> <td>CO/H<sub>2</sub>S</td> <td>0-1999 ppm &amp; 0-200 ppm</td> <td>1</td> </tr> <tr> <td>CO</td> <td>0-1999 ppm</td> <td>2</td> </tr> <tr> <td>H<sub>2</sub>S</td> <td>0-200 ppm</td> <td>3</td> </tr> <tr> <td>CO/H<sub>2</sub>S-LC</td> <td>0-1999 ppm &amp; 0-99.9 ppm</td> <td>4</td> </tr> <tr> <td>CO-HC</td> <td>0-10,000 ppm</td> <td>5</td> </tr> <tr> <td>CO/NO<sub>2</sub></td> <td>0-1999 ppm &amp; 50 ppm</td> <td>6</td> </tr> <tr> <td>CO H<sub>2</sub>-ResH<sub>2</sub>S</td> <td>0-1999 ppm &amp; 0-200 ppm</td> <td>7</td> </tr> </table>	<b>Sensor #2 Options</b>	<b>Code</b>	None	0	Oxygen	0-30%	K	CO/H <sub>2</sub> S	0-1999 ppm & 0-200 ppm	1	CO	0-1999 ppm	2	H <sub>2</sub> S	0-200 ppm	3	CO/H <sub>2</sub> S-LC	0-1999 ppm & 0-99.9 ppm	4	CO-HC	0-10,000 ppm	5	CO/NO <sub>2</sub>	0-1999 ppm & 50 ppm	6	CO H <sub>2</sub> -ResH <sub>2</sub> S	0-1999 ppm & 0-200 ppm	7	Selection
<b>Sensor #2 Options</b>	<b>Code</b>																															
None	0																															
Oxygen	0-30%	K																														
CO/H <sub>2</sub> S	0-1999 ppm & 0-200 ppm	1																														
CO	0-1999 ppm	2																														
H <sub>2</sub> S	0-200 ppm	3																														
CO/H <sub>2</sub> S-LC	0-1999 ppm & 0-99.9 ppm	4																														
CO-HC	0-10,000 ppm	5																														
CO/NO <sub>2</sub>	0-1999 ppm & 50 ppm	6																														
CO H <sub>2</sub> -ResH <sub>2</sub> S	0-1999 ppm & 0-200 ppm	7																														

# ALTAIR 5XM Detector (MSHA)

## ALTAIR 5XM Assemble-To-Order (ATO) Options *(continued)*

<b>D</b>	SENSOR #2	Choose your toxic gas sensor.	<b>Sensor #3 Options</b> None 0 SO <sub>2</sub> 0-20 ppm A Cl <sub>2</sub> 0-10 ppm B NO <sub>2</sub> 0-20 ppm C NH <sub>3</sub> 0-100 ppm D PH <sub>3</sub> 0-5 ppm E HCN 0-30 ppm F ClO <sub>2</sub> 0-1 ppm G NO 0-200 ppm H H <sub>2</sub> S 0-200 ppm 3 H <sub>2</sub> S-LC 0-100 ppm 4	Code	Selection
<b>E</b>	SENSOR #3	Choose your additional toxic gas sensors.	<b>Sensor #4 Options</b> None 0 CO/H <sub>2</sub> S 0-1999 ppm & 0-200 ppm 1 CO 0-1999 ppm 2 H <sub>2</sub> S 0-200 ppm 3 CO/H <sub>2</sub> S-LC 0-1999 ppm & 0-99.9 ppm 4 CO-HC 0-10,000 ppm 5 CO/NO <sub>2</sub> 0-1999 ppm & 50 ppm 6 CO H <sub>2</sub> -ResH <sub>2</sub> S 0-1999 ppm & 0-200 ppm 7 SO <sub>2</sub> 0-20 ppm A Cl <sub>2</sub> 0-10 ppm B NH <sub>3</sub> 0-100 ppm D	Code	Selection
<b>F</b>	ADVANCED SENSOR	Add your advanced IR sensor to complete your sensor suite in the ALTAIR 5XM Multigas Detector.	<b>Advanced Sensor Options</b> None 0 CO <sub>2</sub> 0-5% Vol B Methane 0-100% Vol L	Code	Selection
<b>G</b>	PACKAGING	For an economy plastic carrying case, choose <b>E</b> ; for standard carton packaging, choose <b>0</b> .	<b>Packaging Options</b> Standard carton 0 Economy plastic E	Code	Selection
<b>H</b>	APPROVAL LABEL	Choose the applicable approval label for your area. For MSHA choose <b>M</b> .	<b>Approval Label Options</b> MSHA M	Code	Selection
<b>I</b>	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 Cl <sub>2</sub> , ClO <sub>2</sub> and/or NH <sub>3</sub> , please select option <b>2</b> ; for all other gases select options <b>S</b> or <b>1</b> . Options 1 and 2 come with quick disconnect sampling lines and probes. For no sampling line or probe, select <b>0</b> .	<b>Sampling Line and Probe Kit Options</b> None 0 1-ft clear probe and 10-ft PU Line S 1-ft probe and 10-ft PU line w/ QD 1 1-ft probe and 10-ft teflon line w/ QD (reactive gases) 2	Code	Selection

### Your Model Part Number

Please write in numbers from selections above in appropriate boxes and contact your safety products distributor to place your order.

Selection


A B C D E F G H I

A-ALT5XM-

## 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 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.

ALTAIR® 4X MSHA MULTIGAS DETECTOR	DESCRIPTION	PART NO.
	ALTAIR 4X MULTIGAS DETECTOR (CH <sub>4</sub> , O <sub>2</sub> , CO) Charcoal	10125912
	ALTAIR 4X MULTIGAS DETECTOR (CH <sub>4</sub> , O <sub>2</sub> , CO) Phosphorescent	10125913
	ALTAIR 4X MULTIGAS DETECTOR (CH <sub>4</sub> , O <sub>2</sub> , CO, NO <sub>2</sub> ) Charcoal	10125914
	ALTAIR 4X MULTIGAS DETECTOR (CH <sub>4</sub> , O <sub>2</sub> , CO, NO <sub>2</sub> ) Phosphorescent	10125915
	REPLACEMENT SENSORS	PART NO.
	KIT, XCell EX-M COMBUSTIBLE SENSOR	10121212
	KIT, XCell O <sub>2</sub> SENSOR	10106729
	KIT, XCell CO/H <sub>2</sub> S TWO-TOX SENSOR	10106725
	KIT, XCell CO/NO <sub>2</sub> TWO-TOX SENSOR	10121217
POWER SUPPLY	Part No.	
	4-UNIT MULTI-UNIT CHARGER NA PLUG	10127422
	12-UNIT MULTI-UNIT CHARGER NA PLUG	10143372



### Other MSA Products for Mining Applications

- For ALTAIR 5X MSHA, see page 58.
- For miner's cap lamp and support system, see page 84.
- For self-rescuer respirator, see page 17.

30 CFR Part 22, Methane Detector  
 30 CFR Part 75 Determination testing  
 for methane and oxygen deficiency

## ALTAIR 4X Detector (MSHA)

### ALTAIR 4X (MSHA) Assemble-To-Order (ATO) Options

To select your configuration, select instrument options and mark the code in the selection boxes below.

<b>A</b>	<b>INSTRUMENT TYPE</b>	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 <b>C</b> for charcoal and option <b>G</b> for phosphorescent (glow-in-the-dark).	<b>Instrument Type</b> Charcoal Phosphorescent (glow-in-the-dark)	<b>Code</b> C G	<b>Selection</b>
<b>B</b>	<b>COMBUSTIBLE SENSOR</b>	To have a combustible sensor installed in your new ALTAIR 4X Multigas Detector, please select <b>C</b> . For no combustible sensor, please select <b>0</b> .	<b>Combustible Sensor Options</b> None 0-5% Vol methane	<b>Code</b> 0 C	<b>Selection</b>
<b>C</b>	<b>OXYGEN SENSOR</b>	To have an oxygen sensor installed in your new ALTAIR 4X Multigas Detector, please select <b>1</b> . For no sensor, enter <b>0</b> .	<b>Oxygen Sensor Options</b> None 0-30% Vol	<b>Code</b> 0 1	<b>Selection</b>
<b>D</b>	<b>TOXIC SENSOR</b>	To configure your new ALTAIR 4X Multigas Detector, choose <b>0</b> for no toxic sensor. Choose <b>A</b> for both CO and H <sub>2</sub> S sensors, choose <b>B</b> for CO, <b>C</b> for H <sub>2</sub> S, <b>D</b> for CO and NO <sub>2</sub> , and <b>E</b> for NO <sub>2</sub> .	<b>Toxic Sensor Options</b> None 0-1999 ppm CO and 0-200 ppm H <sub>2</sub> S 0-1999 ppm CO 0-200 ppm H <sub>2</sub> S 0-1999 ppm CO and 0-50 ppm NO <sub>2</sub> 0-50 ppm NO <sub>2</sub>	<b>Code</b> 0 A B C D E	<b>Selection</b>
<b>E</b>	<b>POWER SUPPLY</b>	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.	<b>Power Supply Options</b> None North American North American with cradle	<b>Code</b> 0 N M	<b>Selection</b>
<b>F</b>	<b>APPROVAL LABEL</b>	The ALTAIR 4X Multigas Detector is fully approved by MSHA.	<b>Approval Label Options</b> MSHA	<b>Code</b> M	<b>Selection</b> M
<b>G</b>	<b>EXTENDED WARRANTY</b>	MSA includes a full 3-year warranty on the ALTAIR 4X Multigas Detector, including sensors, battery and electronics. Choose <b>1</b> for an additional year (4 years total).	<b>Extended Warranty Options</b> 3 years standard warranty Extended warranty (4 years total)	<b>Code</b> 0 1	<b>Selection</b>

Your Model Part Number — Please write in selected codes from above in appropriate boxes and contact your safety products distributor to place your order.

Selection    A    B    C    D    E    F    G

A-ALT4XM-

## ALTAIR 5X Multigas Detector Accessories

SPARE PARTS/REPLACEMENTS	PART NO.
BATTERY PACK ASSEMBLY, RECHARGEABLE	10114835
BATTERY PACK, ALKALINE (INCLUDES BELT CLIP)	10114837
BATTERY PACK, RECHARGEABLE, PID/IR	10114839
BELT CLIP REPLACEMENT KIT	10094830
FILTER COVER ASSEMBLY	10083591
FILTER COVER ASSEMBLY, PID/IR	10165275
MAINTENANCE KIT	10114949
MAINTENANCE KIT, PID/IR	10165285
MAINTENANCE KIT (CL <sub>2</sub> , ClO <sub>2</sub> , NH <sub>3</sub> )	10114950
MAINTENANCE KIT PID/IR (CL <sub>2</sub> , ClO <sub>2</sub> , NH <sub>3</sub> )	10165284
SHOULDER STRAP	474555
RETRACTABLE LINE WITH BELT CLIP	10050976
CARRYING CASE, CORDURA, UL ONLY	10040586
ALTAIR 5X HOLSTER, LEATHER	10099648
VEHICLE CHARGER	10099397
FRONT HOUSING WITH INTEGRATED FILTERS	10114853
FRONT HOUSING WITH INTEGRATED FILTERS (PID)	10165249
MULTI-UNIT CHARGER, ALTAIR 5X DETECTOR, 4-UNIT	10127427

CALIBRATION ACCESSORIES	PART NO.
DEMAND REGULATOR KIT	710288
Cl <sub>2</sub> /NH <sub>3</sub> /ClO <sub>2</sub> DEMAND REGULATOR KIT	10034391
CASE WITH GAS MISER® REGULATOR, DEMAND FLOW RP KIT <i>(includes tubing and fitting, less gas)</i>	10050985
CALIBRATION TUBING WITH QUICK-DISCONNECT FITTING	10041225
58L RP, 60 PPM CO, 20 PPM H <sub>2</sub> S, 15% O <sub>2</sub> , 1.45% CH <sub>4</sub>	10045035
58L RP, 60 PPM CO, 20 PPM H <sub>2</sub> S, 15% O <sub>2</sub> , 1.45% CH <sub>4</sub> , 2.5% CO <sub>2</sub>	10103262
58L RP, 60 PPM CO, 20 PPM H <sub>2</sub> S, 15% O <sub>2</sub> , 1.45% CH <sub>4</sub> , 10 PPM SO <sub>2</sub>	10117738
34L ECONO-CAL® CYLINDER, 60 PPM CO, 20 PPM H <sub>2</sub> S, 15% O <sub>2</sub> , 1.45% CH <sub>4</sub>	10048280
34L ECONO-CAL CYLINDER, 60 PPM CO, 15% O <sub>2</sub> , 1.45% CH <sub>4</sub>	10048789
34L ECONO-CAL 100PPM ISOBUTYLENE	10048279
100L 100PPM ISOBUTYLENE	494450

ID STICKERS	PART NO.
ID STICKERS – LIGHT BLUE	10177767
ID STICKERS – RED	10177768
ID STICKERS – GREEN	10177769
ID STICKERS – ORANGE	10177770
ID STICKERS – YELLOW	10177771

SAMPLING ACCESSORIES	PART NO.
SAMPLING LINE, GENERAL PURPOSE, 10-FT PU	10153218
SAMPLING LINE, GENERAL PURPOSE, 15-FT PU	10153219
SAMPLING LINE WITH QUICK-DISCONNECT, 10-FT PU	10040665
SAMPLING LINE WITH QUICK-DISCONNECT, 25-FT PU	10040664
SAMPLING LINE WITH QUICK-DISCONNECT, 10-FT TEFLON	10049058
SAMPLING LINE WITH QUICK-DISCONNECT, 25-FT TEFLON	10049057
SAMPLING LINE WITH QUICK-DISCONNECT, 3-FT PU COILED	10040667
SAMPLING LINE WITH QUICK-DISCONNECT FOR REACTIVE GASES, 10-FT TEFLON STRAIGHT	10105839
GENERAL PURPOSE PROBE, CLEAR, 1-FT	10153041
PROBE, 1-FT	10042621
PROBE, 3-FT	10042622
QUICK-DISCONNECT ADAPTER	10161755
FILTER, WATER STOP, PACK OF 10	801582
FILTER, GENERAL PURPOSE PROBE	10177856

SENSOR SPARE PARTS/REPLACEMENTS	PART NO.
KIT, XCell® Ex SENSOR, COMBUSTIBLE	10106722
KIT, XCell O <sub>2</sub> SENSOR	10106729
KIT, XCell CO/H <sub>2</sub> S TWO-TOX SENSOR	10106725
KIT, XCell CO/H <sub>2</sub> S-LC TWO-TOX SENSOR	10121213
KIT, XCell CO H <sub>2</sub> -RES/H <sub>2</sub> S TWO-TOX SENSOR	10121214
KIT, XCell CO-HC SENSOR	10121216
KIT, XCell NO <sub>2</sub> /CO TWO-TOX SENSOR	10121217
KIT, REPLACEMENT, HCN	10106375
KIT, XCell Cl <sub>2</sub> SENSOR REPLACEMENT	10106728
KIT, REPLACEMENT, ClO <sub>2</sub>	10080222
KIT, XCell SO <sub>2</sub> SENSOR REPLACEMENT	10106727
KIT, REPLACEMENT, NO <sub>2</sub>	10080224
KIT, XCell NH <sub>3</sub> SENSOR REPLACEMENT	10106726
KIT, REPLACEMENT, PH <sub>3</sub>	10116638
KIT, REPLACEMENT, NO	10114750
KIT, REPLACEMENT, PID 10.6EV 0-2000 PPM SENSOR	10165271
KIT, REPLACEMENT, PID 10.6EV 0-2000 PPM LAMP	10165272
KIT, REPLACEMENT, PID 10.6EV 0-10K PPM SENSOR	10165287
KIT, REPLACEMENT PID 10.6EV 0-10K PPM LAMP	10176653
KIT, PID LAMP CLEANING	10165248
KIT, PID MAINTENANCE	10165247
XCell SENSOR PLUG	10105650
SENSOR PLUG, OXYGEN AND TOXICS (20 MM)	10088192



## ALTAIR 4X/4XR Multigas Detector Accessories

ACCESSORIES	PART NO.
STAINLESS STEEL SUSPENDER CLIP	10069894
ALTAIR PUMP PROBE NA W/ CHARGER	10152669
MSA LINK™ SOFTWARE CD-ROM	10088099
JETEYE IR ADAPTER WITH USB CONNECTOR	10082834
HAND ASPIRATOR ASSEMBLY	10050333
ALTAIR 4X HOLSTER, LEATHER	10113308
SENSORS / SPARE PARTS	PART NO.
KIT, XCELL EX COMBUSTIBLE SENSOR	10106722
KIT, XCELL O <sub>2</sub> SENSOR	10106729
KIT, XCELL CO/H <sub>2</sub> S TWO-TOX SENSOR	10106725
KIT, XCELL CO/H <sub>2</sub> S-LC TWO-TOX SENSOR	10121213
KIT, XCELL CO H <sub>2</sub> -RES/H <sub>2</sub> S TWO-TOX SENSOR	10121214
KIT, XCELL SO <sub>2</sub> /H <sub>2</sub> S-LC TWO-TOX SENSOR	10121215
KIT, XCELL NO <sub>2</sub> /CO TWO-TOX SENSOR	10121217
FRONT HOUSING WITH INTEGRATED DUST FILTERS (CHARCOAL)	10110030
FRONT HOUSING WITH INTEGRATED DUST FILTERS (PHOSPHORESCENT)	10110029
MAIN BOARD WITH BATTERY PACK	10106621
LCD FRAME ASSEMBLY (FRAME, LCD, ZEBRA STRIPS, SCREWS)	10110061
SENSORS GASKET, PHILLIPS SCREWS (4X), SELF-TAPPING (2X)	10110062
CD MANUAL, ALTAIR 4X MULTIGAS DETECTOR	10106623
CALIBRATION ACCESSORIES	PART NO.
REGULATOR 0.25 LPM MODEL RP	467895
CALIBRATION ASSEMBLY (CAP, TUBE, CONNECTOR)	10089321
34L QUAD GAS MIX (1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 PPM CO, 20 PPM H <sub>2</sub> S)	10048280
58L QUAD GAS MIX (1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 PPM CO, 20 PPM H <sub>2</sub> S)	10045035
POWER SUPPLY	PART NO.
CHARGING CRADLE COMPONENTS	10086639
NORTH AMERICAN POWER SUPPLY	10087913
CHARGING CRADLE ASSEMBLY	10092233
VEHICLE CHARGER	10095774
4-UNIT MULTI-UNIT CHARGER NA PLUG	10127422

### 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	ALTAIR PUMP PROBE	PART NO.
	Comes with 3-year warranty, wand, calibration cap and coupling hose	
	ALTAIR PUMP PROBE (NORTH AMERICA) WITH CHARGER	10152669
	ALTAIR PUMP PROBE (NORTH AMERICA) WITHOUT CHARGER	10153039
	PUMP PROBE ADAPTER ALTAIR 2X	10161948
	SAMPLING LINES	PART NO.
	10 FOOT POLYURETHANE	10153103
	25 FOOT POLYURETHANE	10153104
50 FOOT POLYURETHANE	10153105	

## ALTAIR 2X Gas Detector

### 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 – charcoal



ALTAIR 2XT – glow-in-the-dark

<b>LOW COST OF OWNERSHIP</b>	<ul style="list-style-type: none"> <li>• Fastest sensor response times, lowest calibration gas flow rate on the market</li> <li>• 4-year expected instrument &amp; sensor life</li> <li>• 3-year warranty on instrument &amp; most sensors (2 years on Cl<sub>2</sub>, NH<sub>3</sub>)</li> </ul>
<b>INCREASED SAFETY AWARENESS &amp; REAL-TIME COMPLIANCE</b>	<ul style="list-style-type: none"> <li>• Bump PASS: Green LED flash every 15 seconds, large on-screen checkmark for real-time compliance</li> <li>• Bump FAIL: Red LED flash every 15 seconds, no checkmark</li> <li>• End-of-sensor-life warning and alarm</li> </ul>
<b>FULL-TIME TRACEABILITY</b>	<ul style="list-style-type: none"> <li>• Records 75 alarm events and over 100 hours of periodic data, including bump and calibration records</li> <li>• Records can be easily downloaded during periodic gas calibrations using the GALAXY GX2 Automated Test System</li> </ul>
<b>RUGGED DURABILITY</b>	<ul style="list-style-type: none"> <li>• Tough over-molded rubber armor</li> <li>• Survives multiple 25-ft drops onto concrete</li> <li>• Agency-certified dust- and water-tight IP67 and intrinsically-safe construction</li> </ul>
<b>EASY TO USE</b>	<ul style="list-style-type: none"> <li>• 1-button, gloved hand operation</li> <li>• Large LCD, characters, and status icons</li> </ul>

Detector Type (Low, High Alarm in ppm)	Charcoal	Glow-in-the-Dark	Replacement Sensor
<b>ALTAIR 2XP – WITH XCELL PULSE TECHNOLOGY</b>			
H <sub>2</sub> S-PULSE (10, 15)	10153984	10154188	10121227
<b>ALTAIR 2XT TWO-TOX GAS DETECTOR</b>			
CO/H <sub>2</sub> S (CO: 25, 100; H <sub>2</sub> S: 10, 15)	10154040	10154181	10152603
CO-H <sub>2</sub> /H <sub>2</sub> S (CO: 25, 100; H <sub>2</sub> S: 10, 15)	10154071	10154182	10152604
CO/H <sub>2</sub> S-LC (CO: 25, 100; H <sub>2</sub> S: 5, 10)	10154072	10154183	10152605
CO/NO <sub>2</sub> (CO: 25, 100; NO <sub>2</sub> : 2.5, 5)	10154073	10154184	10152606
SO <sub>2</sub> /H <sub>2</sub> S-LC (SO <sub>2</sub> : 2, 5; H <sub>2</sub> S: 10, 15)	10153985	10154190	10152607
<b>ALTAIR 2X SINGLE GAS DETECTOR</b>			
CO (25, 100)	10153986	10154185	10152603
CO-H <sub>2</sub> (25, 100)	10154074	10154186	10152604
CO-HC (25, 100)	10154075	10154187	10152602
H <sub>2</sub> S-LC (5, 10)	10154076	10154189	10152605
SO <sub>2</sub> (2, 5)	10154077	10154191	10152607
NO <sub>2</sub> (2.5, 5)	10154078	10154192	10152606
NH <sub>3</sub> (25, 50)	10154079	—	10152601
CL <sub>2</sub> (0.5, 1)	10154080	—	10152600

## 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
<b>ALTAIR PRO SINGLE-GAS DETECTORS</b>					
OXYGEN (O <sub>2</sub> )	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 <sub>2</sub> )	10076717	0.1 ppm	0.3 ppm	0.3 ppm	0.1 ppm
PHOSPHINE (PH <sub>3</sub> )	10076735	0.3 ppm	1.0 ppm	1.0 ppm	0.3 ppm
<i>Alternate Set Point Model</i>					
OXYGEN (O <sub>2</sub> )	10076732	18.00%	19.50%	N/A	N/A

## ALTAIR Maintenance-Free Single-Gas Detector

- Sensor options for CO, H<sub>2</sub>S, and O<sub>2</sub>
- Patented electrochemical sensors and MSA-built button sensors operate for over two 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
<b>ALTAIR PRO SINGLE-GAS DETECTORS</b>			
CARBON MONOXIDE (CO)	10092522	25 ppm	100 ppm
HYDROGEN SULFIDE (H <sub>2</sub> S)	10092521	10 ppm	15 ppm
OXYGEN (O <sub>2</sub> )	10092523	19.5% Vol	23% Vol
<i>Alternate Set Point Model</i>			
CARBON MONOXIDE (CO)	10071334	30 ppm	60 ppm
CARBON MONOXIDE (CO)	10071335	35 ppm	100 ppm
HYDROGEN SULFIDE (H <sub>2</sub> S)	10071340	10 ppm	20 ppm
HYDROGEN SULFIDE ( H <sub>2</sub> S)	10071361	5 ppm	10 ppm
HYDROGEN SULFIDE ( H <sub>2</sub> S)	10071363	7 ppm	14 ppm
OXYGEN (O <sub>2</sub> )	10071364	19.5% Vol	18% Vol

## ALTAIR and ALTAIR Pro Accessories and Parts

ACCESSORIES AND PARTS	Part No.	Description
	467895	Regulator, 0.25 lpm
	10030325	Tubing, 16" (do not use with NH <sub>3</sub> , Cl <sub>2</sub> , and ClO <sub>2</sub> )
	10080534	Tubing, 16" Teflon-lined (NH <sub>3</sub> , Cl <sub>2</sub> , and ClO <sub>2</sub> )
	10074132	3V CR2 battery – ALTAIR Pro only
	10069894	Clip, stainless steel
	10041105	Cell phone clip
	10041107	Lanyard clip
	10073346	Hardhat clip
	10040002	Clip, suspender (standard)
	10082834	JetEye IR USB adapter
	10088099	MSA Link software CD-ROM

## GALAXY® GX2 Automated Test System

- Simple and intelligent testing and calibration of MSA ALTAIR and ALTAIR PRO Single-Gas Detectors, as well as ALTAIR 4X/4XR and ALTAIR 5X/5X PID Multigas Detectors
- Performs as either stand-alone unit or integrated portable detector management system
- Color touchscreen for ease of setup and viewing; no touch operation is needed for calibration or bump test
- RFID automated calibration gas setup, status alerts and traceability
- Global platform—many language options
- Significant cost of ownership reduction when used with MSA XCell Sensors
- Simultaneous testing of up to 10 gas detectors
- Securely configure gas detectors at the touch of a button
- MSA ALTAIR Multigas Detectors are always ready for use



GALAXY GX2 SYSTEM TEST STAND/ 1 VALVE <i>for use with 1 calibration gas cylinder</i>	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 <i>for use with 1–4 calibration gas cylinders</i>	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 <sub>4</sub> , 15% O <sub>2</sub> , 60 ppm CO, 20 ppm H <sub>2</sub> S
	10045035	Calibration gas cylinder (58L) 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 ppm CO, 20 ppm H <sub>2</sub> S
	10117738	Calibration gas cylinder (58L) 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 ppm CO, 20 ppm H <sub>2</sub> S, 10 ppm SO <sub>2</sub>
	10098855	Calibration gas cylinder (34L) 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 ppm CO, 20 ppm H <sub>2</sub> S, 10 ppm SO <sub>2</sub>
	10103262	Calibration gas cylinder (58L) 1.45% CH <sub>4</sub> , 15% O <sub>2</sub> , 60 ppm CO, 20 ppm H <sub>2</sub> S, 2.5% CO <sub>2</sub>
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 4/4X Detector Multi-unit Charger, NA
	10127427	ALTAIR 5/5X 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
10082834	USB IR dongle (for use with MSA Link Software)	

## GALAXY GX2 Automated Test System

ACCESSORIES	Part Number	Description
	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
	10127808	Printer - detector or receipt sticker
	10126437	Detector sticker label roll
	10126138	Receipt & sticker label roll
	10145138	Printer ribbon

### Galaxy GX2 Assemble-To-Order (ATO) Options

To create your Galaxy GX2 Test System configuration, select the instrument option codes and mark them in the boxes to the right.

<b>A</b>	<b>TEST STAND INSTRUMENT TYPE</b>	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.	<b>Test Stand Options</b> ALTAIR/ALTAIR Pro/ALTAIR 2X Detector ALTAIR 4/4X Detector ALTAIR 5/5X Detector	<b>Code</b> A B C	<b>Selection</b>
<b>B</b>	<b>ACTIVE CYLINDER PORTS</b>	Single valve test stands allow for only one calibration cylinder to be used. 2 valves allow for 1-2 calibration cylinders. 4 valves allow for 1-4 calibration cylinders to be accessed.	<b>Calibration Cylinder Options</b> 1 Valve / 1 Cylinder 2 Valves / Up to 2 Cylinders 4 Valves / Up to 4 Cylinders	<b>Code</b> 1 2 4	<b>Selection</b>
<b>C</b>	<b>INSTRUMENT CHARGING</b>	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.	<b>Test Stand Options</b> No Yes	<b>Code</b> 0 1	<b>Selection</b>
<b>D</b>	<b>SMART CYLINDER HOLDER</b>	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.	<b>Smart Cylinder Holder Options</b> None 1 Cylinder Holder 2 Cylinder Holders 3 Cylinder Holders 4 Cylinder Holders	<b>Code</b> 0 1 2 3 4	<b>Selection</b>
<b>E</b>	<b>MULTI-UNIT CHARGER</b>	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.	<b>Multi-unit Charger Options</b> None Multi-unit charger	<b>Code</b> 0 1	<b>Selection</b>
<b>F</b>	<b>POWER CORD</b>	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.	<b>Power Cord Options</b> North America Europe United Kingdom Australia Argentina None	<b>Code</b> N E U A R 0	<b>Selection</b>
<b>H</b>	<b>SECURE DIGITAL USB</b>	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.	<b>Secure Digital USB Options</b> None 1 Secure Digital USB Key	<b>Code</b> 0 A	<b>Selection</b>

#### Your Model Part Number

Please transfer your option codes from the Selection boxes above into the appropriate boxes here and contact your Safety Products Distributor to place your order.

Selection    A    B    C    D    E    F    H

A-GX2-  -  -  -  -  -  -  -  -  -  -

## MSA Calibration Cylinders

**100L**



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

**Model RP Cylinder**

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

**34L, 58L and 116L**



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

**Model RP & Econo-Cal Cylinders**

- Contents: Pressure 500 psig–1000psig
- Material: Aluminum

**875L**



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

**Cylinder**


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

Call for availability of other gas mixtures

**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 14-1/4" high, 3-1/2" in diameter
- Aluminum container 13-1/4" high, 3" in diameter
- Depending upon individual pressure requirements, cylinders contain 58 to 100 liters of specified gas mixture

P/N	Description
477149	<b>Model RP Calibration Check Kit, with 0.25 lpm regulator, includes:</b>
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 <sub>2</sub> )	2.5%	-	-	479265	-
CARBON DIOXIDE (CO <sub>2</sub> )	1.5%	-	-	807386	-
CARBON DIOXIDE (CO <sub>2</sub> )	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 <sub>2</sub> )	20.80%	-	-	-	10150610
METHANE	50%	-	10075804	-	-
METHANE (W/ODORANT)	100%	-	711014	-	-

REACTIVE GASES					
Gas Type	Concentration	34L	58L	116L	
AMMONIA (NH <sub>3</sub> )	25 ppm	711078	814866	10150611	
CHLORINE (CL <sub>2</sub> )	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 <sub>2</sub> 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 <sub>2</sub> )	10 ppm	711068	808977	10150599	
	5 ppm	711084	710332	-	
SULFUR DIOXIDE (SO <sub>2</sub> )	10 ppm	711070	808978	10150600	
PHOSPHINE (PH <sub>3</sub> )	0.5 ppm	711088	710553	10151016	
ISOBUTYLENE	100 ppm	10048279	10028038	-	

## MSA Calibration Cylinders

MULTIGAS ("COCKTAIL MIXES") TABLE										
REACTIVE GASES										
COMB Gas	CO	O <sub>2</sub>	H <sub>2</sub> S	NO <sub>2</sub>	SO <sub>2</sub>	CO <sub>2</sub>	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	10117737	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 <sub>2</sub>	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 <sub>2</sub> S	SO <sub>2</sub>	CO	NO <sub>2</sub>	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 <sub>2</sub> S containing mixtures	CGA 590 is standard fitting for non-H <sub>2</sub> S 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



## ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015 (Industrial Head Protection Standards)

ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015 voluntary industry standards establish industrial helmet types and classes, providing performance and testing requirements. These standards include specifications for helmets designed to offer protection from top and/or lateral impact.


Three classes included in these standards indicate helmet electrical insulation rating:

**Class E (Electrical)** – Helmets intended to reduce the danger of exposure to high-voltage electrical conductors, proof-tested at 20,000 volts.

**Class G (General)** – Helmets intended to reduce the danger of exposure to low-voltage electrical conductors, proof-tested at 2,200 volts.

**Class C (Conductive)** – Helmets do not provide protection from electrical conductors.

Industrial head protection test requirements per ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015 are separated by helmet type: Type I helmets protect wearers from top impact, while Type II helmets protect wearers from top and lateral impact. Test requirements for ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015 are available from the Industrial Safety Equipment Association ([www.safetyequipment.org](http://www.safetyequipment.org)) and [www.CSA.ca](http://www.CSA.ca), respectively.

In addition to three non-mandatory tests for reverse donning , lower temperature [LT] and high-visibility [HV], the ANSI/ISEA Z89.1-2014 standard also includes these provisions:

**■ Section 5: Accessories and Replacement Components**

Revised standard includes language to further support the premise that accessory/component manufacturers are responsible for proving that their products do not cause helmets to fail.

**■ Section 6: Instructions and Markings**









Clarification language was added to help customers understand that “useful service life” for helmets is not required by the Standard, although helmet manufacturers may choose to include it.

**■ Section 7.3.3 Higher Temperatures (HT)**


Revision enables additional protection in response to needs of users who may work within hot environments. Optional preconditioning at higher temperatures of 60°C ± 2°C (140°F ± 3.6°F) has been added. (In the 2009 Standard, temperature conditioning was 48.8°C ± 2°C (120°F ± 3.6°F).) If a helmet has been pre-conditioned to 60°C ± 2°C (140°F ± 3.6°F), the helmet will be marked as HT. In addition, new updates allow for flexibility and inclusion of emerging and current best manufacturing materials for higher temperature protection.

**NOTE:** the Standard does not address pre-conditioning that could be needed for temperature and radiant heat extremes. To ensure that you have the proper head protection level needed for your specific heat application, check with the manufacturer for stated usage of any helmet.

All MSA hard hats have been tested per the mandatory and non-mandatory ANSI/ISEA Z89.1-2014 and CSA Z94.1-2015 requirements, as indicated. MSA offerings include:

MSA Hard Hat	Standard(s)	Type	Class	ANSI Z89 Non-Mandatory Tests
V-Gard Cap/Hat	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class E	HT/  /LT/HV
V-Gard GREEN Cap/Hat	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class E	HT/  /LT/HV
V-Gard 500 Vented Cap/Hat	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class C	HT/  /LT/HV
V-Gard 500 Non-Vented Cap/Hat	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class E	HT/  /LT/HV
SmoothDome Cap	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class E	HT/  /LT/HV
Topgard Cap/Hat	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class E	HT/  /LT/HV
Thermalgard Cap	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type I	Class G	HT/  /LT/HV
Skullgard Cap/Hat	ANSI/ISEA Z89.1-2014	Type I	Class G	HT/  /LT/HV
Super-V Cap	ANSI/ISEA Z89.1-2014; CSA Z94.1-2015	Type II	Class E	HT/LT/HV
Comfo Cap	ANSI/ISEA Z89.1-2014	Type I	Class G	HT/LT

**Non-Mandatory  
ANSI/ISEA Z89.1-2014 Tests**

**Reverse Donning** 

To enable a helmet to be worn in reverse, or a swing ratchet suspension to be used in a helmet, that particular helmet must be marked with the “double-arranged circle” to indicate that it meets the non-mandatory reverse donning test.

**Lower Temperature [LT]**

The traditional low temperature test for a helmet is -18°C or 0°F. Helmets that meet ANSI Z89.1 requirements for LOWER temperatures (-30°C or -22°F) can be marked with LT by the manufacturer.

**High-Visibility [HV]**

Helmets that meet non-mandatory requirements for high-visibility, including special tests for chromaticity and luminescence for added visibility, can be marked with HV by the manufacturer.

**Higher Temperature [HT]**

The traditional pre-conditioning temperature test for a helmet is 48.8°C ± 2°C (120°F ± 3.6°F). Helmets that meet ANSI Z89.1 requirements for HIGHER temperatures pre-conditioned to 60°C ± 2°C (140°F ± 3.6°F) can be marked with HT by the manufacturer. HT does not indicate pre-conditioning that could be needed to validate temperature and radiant heat extremes.

## 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
Colors.....	<i>Cap-Style:</i> <input type="checkbox"/>             
	<i>Full-Brim Hat:</i> <input type="checkbox"/>             
Sizes.....	<i>Cap-Style:</i> small (6 – 7 1/8"); standard (6 1/2 – 8"); large (7 – 8 1/2") <i>Full-Brim Hat:</i> standard (6 1/2 – 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 76–77)
Replacement Suspensions.....	See page 75

### Matte Finish

Classification.....	Type I
Application.....	General purpose
Shell Material.....	Polyethylene
Styles.....	<b>Slotted cap only</b>
Colors.....	<i>Cap-Style:</i> <input type="checkbox"/>        
Sizes.....	<i>Cap-Style:</i> standard (6 1/2 – 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 76–77)
Replacement Suspensions.....	See page 75



All V-Gard Helmets have UV inhibitor molded right in.

Did you know that MSA offers a complete line of MSA hard hat accessories?  
See pages 87–103 for more information.



## V-Gard Hard Hats

Color	Small V-Gard Slotted Cap		Standard V-Gard Slotted Cap			Large V-Gard Slotted Cap	
	w/ Staz-On® Suspension	w/ Fas-Trac® III Suspension <sup>1</sup>	w/ Staz-On Suspension	w/ 1 Touch® Suspension <sup>1</sup>	w/ Fas-Trac III Suspension <sup>1</sup>	w/ Staz-On Suspension	w/ Fas-Trac III Suspension <sup>1</sup>
<b>COMPLETE V-GARD ASSEMBLIES — GLOSS FINISH</b>							
WHITE	466354	477477	463942	10057441	475358	473284	477482
BLUE	466355	477478	463943	10057442	475359	476928	477483
YELLOW	466356	477479	463944	10057443	475360	473285	477484
ORANGE	—	—	463945	10057444	475361	—	—
RED	—	—	463947	10057446	475363	—	—
GREEN	—	—	463946	10057445	475362	—	—
GRAY	—	—	463948	10057447	475364	—	—
HI-VIZ® ORANGE <sup>2</sup>	—	—	488148	10057420	488146	—	489364
HI-VIZ YELLOW-GREEN <sup>2</sup>	—	—	—	10061514	10061512	—	—
BRIGHT LIME GREEN	—	489368	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	—	—

Color	V- Gard Slotted Full-Brim Hat (Std)		
	w/ Staz-On Suspension	w/ 1 Touch Suspension <sup>1</sup>	w/ Fas-Trac III Suspension <sup>1</sup>
<b>COMPLETE V-GARD ASSEMBLIES — GLOSS FINISH</b>			
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 <sup>2</sup>	489360	10058326	10021292
HI-VIZ YELLOW-GREEN <sup>2</sup>	—	10061516	10061515
BRIGHT LIME GREEN	815562	—	815570
DARK (CANADIAN) BLUE	—	—	802975
HOT PINK	10156374	—	10156373

Color	V- Gard Slotted Cap (Std)
	w/ Fas-Trac III Suspension <sup>1</sup>
<b>COMPLETE V-GARD ASSEMBLIES — MATTE FINISH</b>	
WHITE	10203081
BLUE	10203082
YELLOW	10203083
ORANGE	10203087
RED	10203086
GREEN	10203085
GRAY	10203084
HI-VIZ® ORANGE <sup>2</sup>	10203089
HI-VIZ YELLOW <sup>2</sup>	10203088
BLACK	10203092

<sup>1</sup>Certified to CSA.

<sup>2</sup>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.

# Head, Eye, Face, and Hearing Protection

## V-Gard Hard Hat Special Assemblies

Color	Standard V-Gard Slotted Cap			V-Gard Slotted Full-Brim Hat		
	w/ Staz-On Suspension	w/ 1 Touch Suspension <sup>1</sup>	w/ Fas-Trac III Suspension <sup>1</sup>	w/ Staz-On Suspension	w/ 1 Touch Suspension <sup>1</sup>	w/ Fas-Trac III Suspension <sup>1</sup>
<b>SPECIAL V-GARD ASSEMBLIES</b>						
HI-VIZ ORANGE w/yellow-green stripe <sup>2</sup>	—	10102195	10102193	—	—	—
HI-VIZ YELLOW-GREEN w/red-orange stripe <sup>2</sup>	—	10102234	10102233	—	—	—
HI-VIZ YELLOW-GREEN w/silver stripe <sup>2</sup>	—	10102196	10102194	—	—	—
WHITE w/lamp bracket and cord holder (Class C)	460018	—	—	460069	—	815009
WHITE w/American Flag	474159	—	—	—	—	—
<b>V-GARD ASSEMBLY WITH SWING-RATCHET SUSPENSION</b>						
WHITE	10004689	Standard-size V-Gard Cap, w/Swing-Ratchet Suspension				



V-Gard w/Lamp Bracket and Cord Holder



V-Gard w/Swing-Ratchet Suspension

## 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
- Colors.....
- 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
- Customization.....Imprinting and striping available (see pages 76–77)
- Replacement Suspensions....See page 75



	V-Gard GREEN Slotted Cap	V-Gard GREEN Slotted Full-Brim Hat
WHITE	10150199	10160923
YELLOW	10150200	10160924
BLUE	10150221	10160925
GREEN	10150222	10160926
RED	10150223	10160927



On average, production of each V-Gard GREEN helmet removes approximately 2 lbs. of CO<sub>2</sub> from the atmosphere, according to the GHDPE material supplier.

<sup>1</sup>Certified to CSA.

<sup>2</sup>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.

## 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.

- ① Sweatband fully covers headband and worker's forehead
- ② Three levels of nape strap adjustment for customized fit
- ③ Lower nape strap improves retention
- ④ Smooth ratchet rotation and secure hold



Learn how the Fas-Trac III Suspension can relieve your headaches. Visit [www.MSAsafety.com/fastrac](http://www.MSAsafety.com/fastrac).

HELMET TYPE (SIZE)	SUSPENSION TYPE (4-point, unless otherwise noted)			
	Fas-Trac III	1 Touch	Staz-On	Swing Ratchet <sup>1</sup>
V-GARD CAP OR HAT (STANDARD)	10148708	10061123	10087218	816645
V-GARD CAP (SMALL)	10148706	—	467386	—
V-GARD CAP (LARGE)	10148707	—	492566	—
V-GARD 500 CAP (STANDARD)	10148708	10061123	10087218	816645
V-GARD 500 HAT (STANDARD)	10148708	—	10087218	—
SMOOTHDOME CAP (STANDARD)	10148708	10061123	10087218	816645
TOPGARD CAP OR HAT (STANDARD)	10153384	10061127	—	816648
THERMALGARD CAP (STANDARD)	10153384	10061127	—	—
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	—

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

	Part No.	Product Specifics
	10153518	<ul style="list-style-type: none"> <li>• For use with MSA Fas-Trac® III Suspension</li> <li>• Optional, moisture-wicking and washable</li> <li>• Can be attached/replaced while suspension is assembled in helmet</li> <li>• Sold ONLY in packages of 10</li> </ul>

### **⚠ 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.

<sup>1</sup>Swing ratchet size is 6 1/4" through 7 1/2"

## 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<sup>1</sup>.

### 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. Should you choose to personalize your hard hat, don't forget to complete form ID# 0617-17 and submit with your order.

### 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<sup>2</sup>.

### 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<sup>3</sup> 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. Our newest stock logos honor breast cancer survivors and fighters everywhere. They were designed specifically for use on our new Hot Pink V-Gard, but work well on just about any MSA hard hat! 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 used alone or with your customized logo and striping.

### Hard Hat Color Choices

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

### Personalization

The same quality and precision that MSA logos have become famous for is now available with personalization. You can add your name, ID#, title, or anything else with this additional option.



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

<sup>1</sup> Files are purged from MSA's system if no logoed hard hat order is received within three (3) years of the first order.

<sup>2</sup> 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 on-line logo configuration order:

1. Visit: <http://webapps2.msasafety.com/logoexpress/#/intrologin>
2. Select "No" when asked are you a distributor.
3. Select "Customize Now".
4. Choose a standard.
5. Select your hard hat and click "Customize It".
6. Choose your size.
7. Choose your suspension (Fas-Trac III is recommended).
8. Choose your shell color.
9. Choose any striping you wish to include.
10. Upload your logo or chose from a stock logo.
  - Logos cannot be trademarked or of any sports team without the written consent of the logo owner.
  - For optimum quality and turnaround, please submit artwork as a vector file format.
  - Acceptable formats include: CDR, AI, and EPS. Don't have a vector file? We also accept these formats: JPG, PDF, TIFF, PNG, BMP and GIFs.

#### 11. Place your order.

*If you are the end user:*

- Save and email.
- Review terms and click "Accept".
- Complete form and send email to:
  - Distributor Name
  - Distributor Email

*If you are a Channel Partner, you can place the order once you have completed the logoin process OR you can enter in the code emailed to you by the end user to finalize the ordering process.*

***Should you choose to personalize your hard hat, please complete form ID #0617-17-MC and submit with order.***

2. Please see "**MSA Logo Express® Service Artwork Guidelines**" (ID 0617-06-MC) for details on artwork submission. We can deliver your custom hard hats faster if we have our preferred artwork file formats, but we will work with whatever you give us to recreate your logo.

3. Submit an electronic file of your artwork by email ([Logo.Express@MSAsafety.com](mailto:Logo.Express@MSAsafety.com)) or by US Postal Service:

#### **MSA Logo Express**

3880 Meadowbrook Rd.  
Murrysville, PA 15668-1753

*Be sure to include a copy of the completed Order Form with your artwork submission.*

#### **Questions about Helmet Customization?**

Contact your MSA distributor or MSA Logo Express Service.

**EMAIL:** [Logo.Express@msasafety.com](mailto: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](http://us.msasafety.com/logoexpress)**

**KEYWORD: Logo**

## 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  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.*

# Head, Eye, Face, and Hearing Protection



## Officially Licensed NFL V-Gard Hard Hats

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

### V-Gard NFL Cap-Style Hard Hats

Arizona Cardinals Part No. 818384	Atlanta Falcons Part No. 818385	Baltimore Ravens Part No. 818386	Buffalo Bills Part No. 818387	Carolina Panthers Part No. 818388
Chicago Bears Part No. 818389	Cincinnati Bengals Part No. 818390	Cleveland Browns Part No. 818391	Dallas Cowboys Part No. 818392	Denver Broncos Part No. 818393
Detroit Lions Part No. 818394	Green Bay Packers Part No. 818395	Houston Texans Part No. 10031348	Indianapolis Colts Part No. 818396	Jacksonville Jaguars Part No. 818397
Kansas City Chiefs Part No. 818398	Las Vegas Raiders Part No. 818405	Los Angeles Chargers Part No. 818408	Los Angeles Rams Part No. 818411	Miami Dolphins Part No. 818399
Minnesota Vikings Part No. 818400	New England Patriots Part No. 818401	New Orleans Saints Part No. 818402	New York Giants Part No. 818403	New York Jets Part No. 818404
Philadelphia Eagles Part No. 818406	Pittsburgh Steelers Part No. 818407	San Francisco 49ers Part No. 818409	Seattle Seahawks Part No. 818410	Tampa Bay Buccaneers Part No. 818412
Tennessee Titans Part No. 818413				





## Officially Licensed NFL V-Gard Hard Hats

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

### V-Gard NFL Full-Brim Hard Hats

Arizona Cardinals Part No. 10194742	Atlanta Falcons Part No. 10194743	Baltimore Ravens Part No. 10194744	Buffalo Bills Part No. 10194745	Carolina Panthers Part No. 10194746
Chicago Bears Part No. 10194747	Cincinnati Bengals Part No. 10194748	Cleveland Browns Part No. 10194749	Dallas Cowboys Part No. 10194750	Denver Broncos Part No. 10194751
Detroit Lions Part No. 10194752	Green Bay Packers Part No. 10194753	Houston Texans Part No. 10194754	Indianapolis Colts Part No. 10194755	Jacksonville Jaguars Part No. 10194769
Kansas City Chiefs Part No. 10194770	Las Vegas Raiders Part No. 10194777	Los Angeles Chargers Part No. 10194780	Los Angeles Rams Part No. 10194811	Miami Dolphins Part No. 10194771
Minnesota Vikings Part No. 10194772	New England Patriots Part No. 10194773	New Orleans Saints Part No. 10194774	New York Giants Part No. 10194775	New York Jets Part No. 10194776
Philadelphia Eagles Part No. 10194778	Pittsburgh Steelers Part No. 10194779	San Francisco 49ers Part No. 10194781	Seattle Seahawks Part No. 10194782	Tampa Bay Buccaneers Part No. 10194812
Tennessee Titans Part No. 10194813				

# Head, Eye, Face, and Hearing **Protection**

## Freedom Series™ and Specialty V-Gard Hard Hats

<b>Classification</b> .....	Type I	<b>Standards</b> .....	ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
<b>Application</b> .....	General purpose	<b>Certification</b> .....	Third-party by SEI
<b>Shell Material</b> .....	Polyethylene with thermoformed graphics	<b>Customization</b> .....	Imprinting and striping available (see pages 76–77)
<b>Styles</b> .....	Slotted cap; Slotted full-brim hat (Freedom Series only)	<b>Replacement Suspensions</b> .....	See page 75
<b>Suspension</b> .....	Fas-Trac III		
<b>Sizes</b> .....	Standard (6½ – 8")		

American Freedom Series Assemblies			
			
American Stars and Stripes <i>V-Gard Slotted Cap</i> Part No. 10052945	American Stars and Stripes <i>V-Gard Slotted Hat</i> Part No. 10071157	American Flag w/2 Eagles <i>V-Gard Slotted Cap</i> Part No. 10052947	American Flag w/2 Eagles <i>V-Gard Slotted Hat</i> Part No. 10071159
			
Camouflage <i>V-Gard Slotted Cap</i> Part No. 10103908	Camouflage <i>V-Gard Slotted Hat</i> Part No. 10104254	American Eagle <i>V-Gard Slotted Cap</i> Part No. 10079479	Dual American Flag <i>V-Gard Slotted Cap</i> Part No. 10050611
Canadian Freedom Series Assemblies			
			
White w/Red Maple Leaf <i>V-Gard Slotted Cap</i> Part No. 10050613	White w/Red Maple Leaf <i>V-Gard Slotted Hat</i> Part No. 10082234	Black w/Red Maple Leaf <i>V-Gard Slotted Cap</i> Part No. 10082233	Black w/Red Maple Leaf <i>V-Gard Slotted Hat</i> Part No. 10082235
Camouflage w/Canadian Flag on front <sup>1</sup> <i>V-Gard Slotted Cap</i> Part No. 10104925			
Specialty V-Gard Assemblies			
			
Rally Cap <i>V-Gard Slotted Cap</i> Part No. 10103908	Metallic Gold <i>V-Gard Slotted Cap</i> Part No. 10103908	Black Fire <i>V-Gard Slotted Cap</i> Part No. 10103908	Extreme Hi-Viz Cap <sup>2</sup> <i>V-Gard Slotted Cap</i> Part No. 10103908

<sup>1</sup>Not pictured

<sup>2</sup>Extreme Hi-Viz Cap meets high-visibility requirements of ANSI/ISEA 107.

## Hydro Dip V-Gard Hard Hats

<b>Classification</b> .....Type I	<b>Standards</b> .....ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
<b>Application</b> .....General purpose	<b>Certification</b> .....Third-party by SEI
<b>Shell Material</b> .....Polyethylene	<b>Customization</b> .....Imprinting and striping available (see pages 76–77)
<b>Styles</b> .....Slotted cap; Slotted full-brim hat	<b>Replacement Suspensions</b> .....See page 75
<b>Suspension</b> .....Fas-Trac III	
<b>Sizes</b> .....Standard (6½ – 8")	



### 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 Canyon 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 Canyon V-Gard Slotted Hat Part No. 10204787

\*Restrictions apply



# Head, Eye, Face, and Hearing Protection

## SmoothDome® Hard Hats



SmoothDome Cap with Fas-Trac III Suspension

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

DESCRIPTION	w/4-Point Fas-Trac III Suspension	w/6-Point Fas-Trac III Suspension
WHITE	10074067	10084078
BLUE	10074068	10084079
YELLOW	10074069	10084080
ORANGE	10074070	10084081
RED	10074071	10084082
GREEN	10074072	10084083
GRAY	10074073	10084084
HI-VIZ ORANGE <sup>1</sup>	10074077	10084088
HI-VIZ YELLOW-GREEN <sup>1</sup>	10074084	10084095
HI-VIZ ORANGE W/YELLOW-GREEN STRIPE <sup>1</sup>	10095987	10095988
HI-VIZ YELLOW-GREEN W/ORANGE STRIPE <sup>1</sup>	10095989	10095990
HI-VIZ ORANGE W/SILVER STRIPE <sup>1</sup>	10096141	—
HI-VIZ YELLOW-GREEN W/SILVER STRIPE <sup>1</sup>	10096142	—

## Thermalgard® Hard Hats



Thermalgard Cap with Fas-Trac III Suspension

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

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



*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.*



*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.*

**Customization:** Imprinting and striping available—see pages 76–77 **Replacement Suspensions:** See page 75

<sup>1</sup>SmoothDome 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.

<sup>2</sup>Thermalgard Caps and Hats have been tested to radiant heat loads producing temperatures up to, but not exceeding, 350°F.

## Skullgard® Hard Hats

Skullgard Cap, natural, with Fas-Trac III Suspension



**Classification**..... Type I  
**Application**..... General purpose; elevated temperature<sup>1</sup>  
**Shell Material**..... Phenolic  
**Styles**..... Non-slotted cap; full-brim hat  
**Colors**.....            
**Sizes**..... **Cap:** Standard (6½ – 8"); Small (6 – 7⅞"); Large (7 – 8½")  
**Hat:** Standard (6½ – 8")  
**Standards**..... ANSI/ISEA Z89.1-2014 (Class G)  
**Certification**..... Third-party by SEI

DESCRIPTION	w/ Staz-On Suspension	w/ Fas-Trac III Suspension	w/ Swing-Ratchet Suspension
<b>SKULLGARD CAP (STANDARD SIZE)</b>			
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 <sup>2</sup>	458702	—	—
<b>SKULLGARD HAT (STANDARD SIZE)</b>			
NATURAL TAN	454664	475407	—
WHITE	454665	475408	—
YELLOW	454666	—	—
GREEN	454668	—	—
ORANGE	454673	—	—

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

## Super V® Hard Hats



Super-V Cap, white, with Fas-Trac III Suspension

**Classification**..... Type II (ANSI and CSA)  
**Application**..... Lateral protection  
**Shell Material**..... Polyethylene  
**Styles**..... Slotted cap w/foam liner  
**Colors**.....            
**Sizes**..... Standard (6½ – 7⅞")  
**Standards**..... ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)  
**Certification**..... Third-party by SEI

DESCRIPTION	w/Fas-Trac III Suspension
<b>SUPER V ASSEMBLIES</b>	
WHITE	C217091
YELLOW	C217093
RED	C217095
ORANGE	C217094
BLUE	C217092
NAVY GRAY	C217097
HI-VIZ ORANGE <sup>2</sup>	C217100
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—see pages 76–77 **Replacement Suspensions:** See page 75

<sup>1</sup>Skullgard caps and hats have been tested to radiant heat loads producing temperatures up to, but not exceeding, 350°F.

<sup>2</sup>Hi-Viz red-orange Skullgard 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.

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

# Head, Eye, Face, and Hearing Protection

## Comfo-Cap® Hard Hats



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

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

**Customization:** Imprinting and striping available—see pages 76–77

**Replacement Suspensions:** See page 75

## 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



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

### Other MSA Products for Mining Applications

For W65 Self-Rescuer, see page 17.

For ALTAIR 4X MSHA Portable Gas Detector, see page 60.

For ALTAIR 5X MSHA Portable Gas Detector, see page 58.

## Bump Caps



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

DESCRIPTION	w/Plastic Suspension
<b>BUMP CAP ASSEMBLIES</b>	
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)

<sup>1</sup>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.

## V-Gard H1 Safety Helmets



V-Gard H1 Safety Helmet with vents



V-Gard H1 Safety Helmet without vents



The V-Gard H1 Safety Helmet and accessories provide exceptional comfort and ease of use in a stylish low-profile design. A complete above-the-neck platform for all applications.

- Fas-Trac® III Pivot ratchet suspension for **superior comfort, adjustability and range of motion**
- Non-contact foam liner maximizes air flow & breathability for **optimal cooling and hygiene**
- Vented options for **optimal air flow and cooling**
- Field replaceable 4-point chinstrap with multiple adjustment points for **customized fit and comfort**
- Premium sweatband with sweat-wicking fabric, breathable foam and Velcro® attachment for **easy field replacement**
- Patented “push-button” accessory attachment rail and universal lighting clips for **quick installation and removal**
- **Convenient rescue whistle** integrated into the chin strap buckle

- 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 ..... Trivent; no vent
- Colors .....
- Sizes ..... Standard 6½ – 8” (52–64 cm) head circumference
- Standards ..... See chart on page 86

DESCRIPTION	TRIVENT w/ pivoting Fas-Trac III Suspension	NO VENT w/ pivoting Fas-Trac III Suspension
<b>V-GARD H1 CLIMBING HELMET ASSEMBLIES</b>		
WHITE	10194783	10194791
RED	10194784	10194792
BLUE	10194785	10194793
GREEN	10194786	10194794
YELLOW	10194787	10194795
HI-VIZ YELLOW GREEN	10194788	10194796
ORANGE	10194789	10194797
BLACK	10194790	10194798
GRAY	10204341	10204347

**Customization:** Stylish dark gray reflective striping standard. Imprinting available—see pages 76–77

**Accessories:** See page 86



# Head, Eye, Face, and Hearing Protection



## V-Gard H1 Safety Helmets: Standards

STANDARD	Aspect	TRIVENT	NO VENT
ANSI/ISEA Z89.1-2014 TYPE 1	Class C (Conductive 0 V ac)	■	
	Class E (20,000 V ac)		■
	-22° F (-30° C) (Lower Temperature)	■	■
	140°F ± 3.6°F (60°C ± 2°C) (Higher Temperature)	■	
CSA/CAN Z94.1-15 TYPE 1	Class C (Conductive 0 V ac)	■	
	Class E (20,000 V ac)		■
EN 12492:2012 MOUNTAINEERING STANDARD	—	■	
EN 397:2012 + A1:2012	-22° F (-30° C) (Lower Temperature)		■
	440 V ac (Electrical Resistance)		■
EN 50365:2002 (1000V A.C.) FOR USE ON LOW VOLTAGE INSULATIONS	—		■

\* Pending approval.



## V-Gard H1 Safety Helmet Accessories

			
PART NO.	10194818	10194819	10194820
PRODUCT NAME	H1 Clear Face Shield	H1 Mesh/Forestry Face Shield	V-Gard H1 Half-Face Spectacles
COLOR	Clear	Mesh	Clear
PRODUCT SPECIFICS	<ul style="list-style-type: none"> <li>• Clear polycarbonate contoured visor for closer fit and improved resistance to impact and splash hazards</li> <li>• Simple push button donning and doffing on the V-Gard H1 Safety Helmet—no additional frames or adapters required</li> <li>• Dual pivot hinge maintains a low profile to the helmet when stowed for improved field of vision and wind resistance</li> <li>• Anti-fog coating and frameless design improves visibility</li> </ul>	<ul style="list-style-type: none"> <li>• Steel mesh contoured visor for closer fit and improved protection from flying chips and other light debris</li> <li>• Simple push button donning and doffing on the V-Gard H1 safety helmet—no additional frames or adapters required</li> <li>• Dual pivot hinge maintains a low profile to the helmet when stowed for improved field of vision and wind resistance</li> </ul>	<ul style="list-style-type: none"> <li>• Clear polycarbonate contoured spectacles for closer fit and improved resistance to impact and splash hazards</li> <li>• Simple push button donning and doffing on the V-Gard H1 safety helmet—no additional frames or adapters required</li> <li>• Dual pivot hinge maintains a low profile to the helmet when stowed for improved field of vision and wind resistance</li> <li>• Anti-fog coating and frameless design improves visibility</li> </ul>
APPROVALS	<ul style="list-style-type: none"> <li>• ANSI/ISEA Z87.1-2015</li> <li>• CSA Z94.3</li> <li>• EN 166</li> </ul>	<ul style="list-style-type: none"> <li>• ANSI/ISEA Z87.1-2015</li> <li>• EN 1731</li> </ul>	<ul style="list-style-type: none"> <li>• ANSI/ISEA Z87.1-2015</li> <li>• CSA Z94.3</li> <li>• EN 166</li> </ul>

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

### V-Gard Universal Cap Frame

<b>PART NO.</b>	10187161	10187162
<b>DEBRIS CONTROL</b>	With debris control	Without debris control
<b>PRODUCT SPECIFICS</b>	<p><b>Easy to Use</b></p> <ul style="list-style-type: none"> <li>Add and remove accessories</li> <li>Quicker visor installation and removal</li> <li>Green color coded parts</li> </ul> <p><b>Built to Last</b></p> <ul style="list-style-type: none"> <li>Infinity joints</li> <li>Universal strap</li> <li>Debris control</li> </ul> <p><b>Reducing Complexity</b></p> <ul style="list-style-type: none"> <li>Designed to work with all MSA V-Gard cap-style hard hats</li> </ul>	<p><b>Easy to Use</b></p> <ul style="list-style-type: none"> <li>Add and remove accessories</li> <li>Quicker visor installation and removal</li> <li>Green color coded parts</li> </ul> <p><b>Built to Last</b></p> <ul style="list-style-type: none"> <li>Infinity joints</li> <li>Universal strap</li> </ul> <p><b>Reducing Complexity</b></p> <ul style="list-style-type: none"> <li>Designed to work with all MSA V-Gard cap-style hard hats</li> </ul>



<b>PART NO.</b>	10187163
<b>PRODUCT SPECIFICS</b>	Replacement debris wiper
<b>PART NO.</b>	10187251
<b>PRODUCT SPECIFICS</b>	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<sup>1</sup>:** 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

<b>PART NO.</b>	10115730	10121266
<b>MATERIAL</b>	High density polyethylene (HDPE)	High density polyethylene (HDPE)
<b>DEBRIS CONTROL</b>	Includes replaceable debris control which creates tight seal between frame and cap	Debris control sold separately
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>Fits all MSA Slotted Caps</li> <li>Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs<sup>2</sup></li> <li>Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> </ul>	<ul style="list-style-type: none"> <li>Fits all MSA Slotted Caps<sup>3</sup></li> <li>Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs<sup>2</sup></li> <li>Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> </ul>

### ▲ 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.

<sup>1</sup>Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.

<sup>2</sup>Patent pending

<sup>3</sup>MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.

<sup>4</sup>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 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<sup>1</sup>:** 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

			
<b>PART NO.</b>	10115821 	10121267 	10116552 
<b>MATERIAL</b>	Polycarbonate – all non-metal construction	Polycarbonate – all non-metal construction	Polycarbonate – all non-metal construction
<b>DEBRIS CONTROL</b>	Replaceable debris control tested against EN 166 hot solids requirements	Debris control sold separately <sup>3</sup>	Replaceable debris control tested against EN 166 hot solids requirements
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs<sup>2</sup></li> <li>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> </ul>	<ul style="list-style-type: none"> <li>• Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs</li> <li>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> </ul>	<ul style="list-style-type: none"> <li>• Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models<sup>4</sup></li> <li>• Design allows use with other PPE, including MSA earmuffs and respirators</li> </ul>

## 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<sup>1</sup>:** 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

	
<b>PART NO.</b>	10116627 
<b>MATERIAL</b>	High density polyethylene (HDPE)
<b>DEBRIS CONTROL</b>	Offered without debris control ONLY
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models</li> <li>• Design allows use with other PPE, including MSA earmuffs and respirators</li> <li>• Fits MSA Full-Brim Safety Helmets</li> </ul>

### 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<sup>1</sup>:** 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

	
<b>PART NO.</b>	10116628 
<b>MATERIAL</b>	Polycarbonate – all non-metal construction
<b>DEBRIS CONTROL</b>	Offered without debris control ONLY
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Heavy duty flat rubber strap allows easy and secure placement on all MSA hats, including non-slotted models</li> <li>• Design allows use with other PPE, including MSA earmuffs and respirators</li> <li>• Fits MSA Full-Brim Safety Helmets</li> </ul>

<sup>1</sup>Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.

<sup>2</sup>Patent pending

<sup>3</sup>MSA recommends the use of debris control on V-Gard frames when wearing BOTH large V-Gard molded Visors and cap-mounted earmuffs.

<sup>4</sup>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

**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<sup>1</sup>:** ANSI/ISEA Z87.1-2015 and CSA Z94.3

**Certification/Testing:** CSA International and Intertek

**Min Order Qty:** 10

### V-Gard Frames for General Purposes

<b>PART NO.</b>	10154622	10154604
<b>MATERIAL</b>	Polybutylene terephthalate (PBT)	Polybutylene terephthalate (PBT)
<b>DEBRIS CONTROL</b>	Sold with replaceable debris control which creates tight seal between frame and hat	Debris control sold separately
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Fits MSA Slotted Full Brim Hats</li> <li>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> <li>• Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Fits MSA Slotted Full Brim Hats</li> <li>• Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor</li> <li>• Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost<sup>2</sup></li> </ul>

### Debris Control

<b>PART NO.</b>	10155838
<b>MATERIAL</b>	All rubber construction
<b>DEBRIS CONTROL</b>	Exceeds EN requirements for molten metal
<b>PRODUCT SPECIFICS</b>	• Debris Control for V-Gard Slotted Full Brim Hat Frames

## 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<sup>1</sup>:** ANSI/ISEA Z87.1-2015; CSA Z94.3

**Certification:** Third-party by Intertek, CSA International (as marked)

<b>PART NO.</b>	10158799	10158800	10176739
<b>MATERIAL</b>	Heavy-duty anodized aluminum	Heavy-duty anodized aluminum	Heavy-duty anodized aluminum
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• For use with <b>MSA cap-style hard hats</b></li> <li>• Spring coil for fast loading of frame to helmet</li> <li>• Three visor resting positions</li> <li>• Locking device holds visor securely in the down position</li> </ul>	<ul style="list-style-type: none"> <li>• For use with <b>MSA Skullgard Caps</b></li> <li>• Spring coil for fast loading of frame to helmet</li> <li>• Three visor resting positions</li> <li>• Locking device holds visor securely in the down position</li> </ul>	<ul style="list-style-type: none"> <li>• For use with <b>MSA full-brim hard hats</b></li> <li>• Spring coil for fast loading of frame to helmet</li> <li>• Three visor resting positions</li> <li>• Locking device holds visor securely in the down position</li> </ul>

### WARNING

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

<sup>1</sup>Standards requirements met by each V-Gard Frame/V-Gard Visor combination designated on each V-Gard Visor.

# Head, Eye, Face, and Hearing Protection

## 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<sup>1</sup>:** 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

			
<b>PART NO.</b>	10144486 	10115836  	10115837  
<b>MATERIAL</b>	Polycarbonate – clear	Polycarbonate – clear	Polycarbonate – clear
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 5" (14.61 cm) x 17" (43.2 cm) x .04" (1.02 mm)</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> <li>• Approved to ANSI and CSA<sup>2</sup> standards; does not meet EN standards</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm)</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm)</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>

**WARNING:** The products listed below can expose you to chemicals including Bisphenol A (BPA), which is known to the State of California to cause cancer or reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10115836	V-Gard Visor, polycarbonate, clear, SHXSTDXLTW	Bisphenol A (BPA)	Reproductive Toxicity

			
<b>PART NO.</b>	10120108 	10115863  	10115839  
<b>MATERIAL</b>	Polycarbonate – clear	Polycarbonate – clear	Polycarbonate with antifog/anti-scratch coatings for humid conditions – clear
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> </ul>		<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Slightly thicker for industrial impact applications</li> </ul>
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm)</li> <li>• Bulk pack of 20</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>	<ul style="list-style-type: none"> <li>• 9.5" (24.1 cm) x 17" (43.2 cm) x .04" (1.02mm)</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm)</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>

<sup>1</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

## 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<sup>1</sup>:** 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

<b>PART NO.</b>	10115841		10115842
<b>MATERIAL</b>	Polycarbonate with antifog/anti-scratch coatings for humid conditions – clear		Polycarbonate with anti-fog/antiscratch coatings for humid conditions – green tint to reduce glare
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Slightly thicker for industrial impact applications</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm)</li> <li>• Nitrometer; for use w/V-Gard Retractable or Standard Chin Protectors</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>		<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm)</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> <li>• <b>Not for use where a Shade infrared (IR) visor is required</b></li> </ul>
<b>PART NO.</b>	10115840		10117783
<b>MATERIAL</b>	Polycarbonate – clear		Polycarbonate – clear
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Slightly thicker for industrial impact applications</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm)</li> <li>• Contoured visor; closer fit and improved resistance to impact and splash hazards</li> </ul>		<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm)</li> <li>• Flat nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> <li>• Wider design; improved resistance to impact and splash hazards</li> <li>• Does not meet CSA Z94.3</li> </ul>

## 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<sup>1</sup>:** 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

<b>PART NO.</b>	10116557	10116558	10158822
<b>MATERIAL</b>	Epoxy-coated steel mesh (20 x 20) — black, plastic edged		Epoxy-coated steel mesh (20 x 20) — aluminum-bound mesh
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• General protector (Z87)</li> <li>• <b>Not for impact hazards</b></li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm)</li> <li>• Not for use against splash, impact, elevated temperatures or UV hazards</li> <li>• Can be worn with earmuffs</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm)</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> <li>• Not for use against splash, impact, elevated temperatures or UV hazards</li> <li>• Can be worn with earmuffs</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 16.5" (41.9 cm)</li> <li>• Not for use against splash, impact, electrical or UV hazards</li> </ul>

<sup>1</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

# Head, Eye, Face, and Hearing Protection

## 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<sup>1</sup>:** 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

			
<b>PART NO.</b>	10115855 	10115856 	10115851 
<b>MATERIAL</b>	Propionate – clear	Propionate – clear	Propionate – clear
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Please refer to MSA's <i>Chemical Application Quick Reference Guide</i> (ID 0670-007-MC) for chemical performance details</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm)</li> <li>• Extra-thick to help prevent warping, cracking or crazing under tough conditions</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .098" (2.5mm)</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> <li>• Extra-thick to help prevent warping, cracking or crazing under tough conditions</li> </ul>	<ul style="list-style-type: none"> <li>• 9.25" (23.5 cm) x 18" (45.7 cm) x .098" (2.5mm)</li> <li>• Extra-thick to help prevent warping, cracking or crazing under tough conditions</li> <li>• Extended length and width for greater coverage of neck and face</li> </ul>



*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 green tint propionate Visors also offer maximum UV protection.*

## 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<sup>1</sup>:** 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

		
<b>PART NO.</b>	10115853 	10115854 
<b>MATERIAL</b>	Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) – clear	Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) – green tint to reduce glare
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Thick for heavy-duty industrial impact applications</li> </ul>	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm)</li> <li>• Molded visor for superior optics under heavy duty use</li> <li>• Extended length for greater coverage of neck/face</li> <li>• Performs well against many chemicals. Refer to MSA's <i>Chemical Application Quick Reference Guide</i> (ID 0670-007-MC) for details</li> </ul>	<ul style="list-style-type: none"> <li>• 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm)</li> <li>• Molded visor for superior optics under heavy duty use</li> <li>• Extended length for greater coverage of neck/face</li> <li>• <b>Not for use where a Shade IR visor is required</b></li> </ul>



*V-Gard molded, green and clear visors (whether propionate or polycarbonate) 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.*

<sup>1</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

## 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<sup>1</sup>:** 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

		
<b>PART NO.</b>	10115844  	10115845  
<b>MATERIAL</b>	Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively)	Polycarbonate with EN 166 performance-rated anti-fog/anti-scratch coatings for hot/humid conditions (N,K marks, respectively) – green tint to reduce glare and eye strain
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Slightly thicker for industrial impact applications</li> </ul>	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm)</li> <li>• Molded visor for superior optics under heavy duty use</li> <li>• Extra-thick visor helps prevent warping, cracking or crazing</li> <li>• 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)</li> <li>• <b>Visors do not reflect IR; not recommended for use against radiant heat hazards</b></li> </ul>	<ul style="list-style-type: none"> <li>• 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm)</li> <li>• Molded visor for superior optics under heavy duty use</li> <li>• Extra-thick visor helps prevent warping, cracking or crazing</li> <li>• 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)</li> <li>• <b>Visors do not reflect IR; not recommended for use against radiant heat hazards</b></li> <li>• <b>Not for use where a Shade IR visor is required</b></li> </ul>

## 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<sup>1</sup>:** 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

		
<b>PART NO.</b>	10177690 	10177701
<b>MATERIAL</b>	Polycarbonate with EN 166 performance-rated reflective coating (R mark) — clear; molded	Polycarbonate with EN 166 performance-rated reflective coating (R mark) – green tint to reduce glare and eye strain; molded
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Maximum UV protection</li> <li>• Impact-rated (Z87+)</li> <li>• Reflects &gt;60% Infrared (IR) radiation (EN166 R mark) in the 780nm to 2000nm wavelength</li> </ul>	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm)</li> <li>• Reflective coating reflects IR and helps dissipate heat</li> <li>• Thick visor helps prevent warping, cracking or crazing</li> <li>• Extended length for greater coverage of face and neck;</li> <li>• <b>DO NOT use for welding</b></li> </ul>	<ul style="list-style-type: none"> <li>• 9.5" (24.1 cm) x 17.75" (45.09 cm) x .07" (1.8 mm)</li> <li>• Reflective coating reflects IR and helps dissipate heat</li> <li>• <b>Not for use where a Shade IR visor is required</b></li> <li>• Thick visor helps prevent warping, cracking or crazing</li> <li>• Extended length for greater coverage of face and neck;</li> <li>• <b>DO NOT use for welding</b></li> </ul>



*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<sup>2</sup>. 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](http://MSAsafety.com).*

<sup>1</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.



# Head, Eye, Face, and Hearing Protection

## V-Gard Visors: Welding (Shade 3 and Shade 5)

**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

**Standards<sup>1</sup>:** ANSI/ISEA Z87.1-2015; EN 166 (4-3/3 MSA 1BT39 [shade 3] and 4-5/5 MSA 1BT39 [shade 5]); 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

				
<b>PART NO.</b>	10115859	10115860	10115861	10115862
<b>MATERIAL</b>	Polycarbonate – Shade 3 IR	Polycarbonate – Shade 3 IR	Polycarbonate – Shade 5 IR	Polycarbonate – Shade 5 IR
<b>FEATURES</b>	• Impact-rated (Z87+)			
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)</li> <li>• Thickness helps prevent pitting and warping from heat or weld spatter</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)</li> <li>• Thickness helps prevent pitting and warping from heat or weld spatter</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)</li> <li>• Thickness helps prevent pitting and warping from heat or weld spatter</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17" (43.2 cm) x .07" (1.8 mm)</li> <li>• Thickness helps prevent pitting and warping from heat or weld spatter</li> <li>• Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors</li> </ul>

## V-Gard Visors: Arc Flash Application<sup>2</sup>



**Markets:** Manufacturing, utilities, construction, oil/gas/petrochemical

**Applications:** Maintenance, impact and debris, testing/repair


**Standards<sup>1</sup>:** ANSI/ISEA Z87.1-2015; ASTM F2178-2008 (Ref: NFPA 70E, HRC 2)

**Certification:** Third-party by Intertek and ArcWear

**Min Order Qty:** 5

		
<b>PART NO.</b>	10115847	10118480
<b>MATERIAL</b>	Polycarbonate — special tint, light green visor; molded	Polycarbonate — special tint, light green visor; molded (for use with designated V-Gard Chin Protector)
<b>FEATURES</b>	• Impact-rated (Z87+)	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 9.25" (23.5 cm) x 18" (45.7 cm) x .065" (1.7 cm)</li> <li>• Extended length and width for greater coverage of face and neck</li> <li>• <b>Rated to 12.9 cal/cm<sup>2</sup></b> 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 10121266)</li> <li>• Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor w/other V-Gard Frames and MSA Helmet combinations</li> </ul>	<ul style="list-style-type: none"> <li>• 8" (20.3 cm) x 17.25" (43.8 cm) x .065" (1.7 cm)</li> <li>• Extended length and width for greater coverage of face and neck</li> <li>• <b>Rated to 12.9 cal/cm<sup>2</sup></b> 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 10121266) and V-Gard Standard Chin Protector (PN/10115827)</li> <li>• Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor w/other V-Gard Frames and MSA Helmet combinations</li> </ul>

## V-Gard Accessory System Replacement Parts<sup>3</sup>

			
<b>NAME</b>	Slot Adapters (2 pair)	Debris Control for V-Gard Frames	Heavy-duty Rubber Strap
<b>PART NO.</b>	10117496	10116539	10117495
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• For use with V-Gard Frames for Slotted Caps</li> <li>• Sold in boxes of 10 (5 packages of 2)</li> </ul>	<ul style="list-style-type: none"> <li>• Debris control exceeds EN requirements for molten metal</li> <li>• All-rubber construction</li> <li>• Minimum order quantity: 10</li> </ul>	<ul style="list-style-type: none"> <li>• For V-Gard Universal Cap or Hat Frames</li> <li>• Minimum order quantity: 10</li> </ul>

<sup>1</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.

<sup>2</sup>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.

<sup>3</sup>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 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.<sup>1</sup>

**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 (6-1/2 – 8)

**Standards<sup>2</sup>:** 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.

<b>PRODUCT NAME</b>	V-Gard Headgear (General Purpose)	V-Gard Headgear (Elevated Temperature)
<b>PART NO.</b>	10127061	10127062
<b>MATERIAL</b>	High Density Polyethylene (HDE) – black	Heat-resistant nylon – gray
<b>FEATURES</b>	• Ratchet closure	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose!</li> <li>• Seven-point crown adjustment</li> <li>• Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool</li> <li>• Sweat-wicking ratchet cover keeps nape comfortable</li> <li>• For use ONLY with V-Gard Visors; <b>not for use where head protection is required</b></li> <li>• All non-metal construction</li> <li>• Minimum order quantity: 10</li> </ul>	<ul style="list-style-type: none"> <li>• Extended browguard for additional coverage in high temperatures</li> <li>• Tested to withstand temperatures up to 400°F<sup>3</sup></li> <li>• Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose!</li> <li>• Seven-point crown adjustment</li> <li>• Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool</li> <li>• Sweat-wicking ratchet cover keeps nape comfortable</li> <li>• For use ONLY with V-Gard Visors; <b>not for use where head protection is required</b></li> <li>• All non-metal construction</li> <li>• Minimum order quantity: 5</li> </ul>

<b>PRODUCT NAME</b>	V-Gard Headgear Kit (General Purpose)	V-Gard Headgear Replacement Sweatband <sup>4</sup>
<b>PART NO.</b>	10127063	10127065
<b>PRODUCT SPECIFICS</b>	<p><b>Contains:</b></p> <ul style="list-style-type: none"> <li>• V-Gard General Purpose Headgear (PN 10127061)</li> <li>• V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)</li> </ul>	<ul style="list-style-type: none"> <li>• Sweat-wicking material over breathable foam helps keep workers cool, dry and comfortable</li> <li>• Hook &amp; loop closure makes replacement easy</li> <li>• Tested to the FR requirements in CSA Z94.3-07</li> <li>• Sold in boxes of 25 (5 packages of 5)</li> </ul>

**WARNING:** The products listed below can expose you to chemicals including Bisphenol A (BPA), which is known to the State of California to cause cancer or reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10115836	V-Gard Visor, polycarbonate, clear, SHXSTDXTLW	Bisphenol A (BPA)	Reproductive Toxicity

<sup>1</sup>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.

<sup>2</sup>Standards requirements met by each V-Gard Frame or Headgear/V-Gard Visor combination designated on each V-Gard Visor.






<sup>3</sup>Exposure to extreme heat can cause thermal discomfort. Proper precautions should be taken to prevent heat stress and other injuries.

<sup>4</sup>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.

# Head, Eye, Face, and Hearing Protection

## V-Gard Chin Protectors<sup>1</sup>

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

			
<b>NAME</b>	Retractable Chin Protector	Chin Protector	Standard Chin Protector
<b>PART NO.</b>	10115828 	10149029 	10115827
<b>MATERIAL</b>	Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors)	Polycarbonate – clear (for improved visibility)	Polycarbonate – opaque (ensures safety and standards compliance with clear, tinted, shaded and coated V-Gard Visors)
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 3.82" (9.7 cm) in height, when unretracted</li> <li>• Unique retractable plates allow greater flexibility of head movement both up and down, as well as side-to-side</li> <li>• Minimum order quantity: 5</li> </ul>	<ul style="list-style-type: none"> <li>• 2.86" (7.26 cm) in height</li> <li>• Compact, lightweight design provides additional protection between chin and neck area</li> <li>• Should not be worn with tinted, arc or shaded nitrometer visors to ensure compliance with stated Standards markings/requirements</li> <li>• Minimum order quantity: 5</li> </ul>	<ul style="list-style-type: none"> <li>• 2.86" (7.26 cm) in height</li> <li>• Compact, lightweight design provides additional protection between chin and neck area</li> <li>• Minimum order quantity: 5</li> </ul>

## V-Gard Accessory System Kits

				
<b>KIT</b>	V-Gard Accessory System Kit with V-Gard Cap	V-Gard Accessory System Kit (without V-Gard Cap)	V-Gard Forestry Kit	V-Gard Accessory Arc Kit
<b>PART NO.</b>	10118695	10118697	10118694	10118696 <sup>2</sup>
<b>KIT CONTENTS</b>	<ul style="list-style-type: none"> <li>• White V-Gard Cap with ratchet suspension (PN 475358)</li> <li>• V-Gard Frame for Slotted Caps; with debris control (PN 10115730)</li> <li>• V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)</li> </ul>	<ul style="list-style-type: none"> <li>• V-Gard Universal Frame for Caps with debris control (PN 10115822)</li> <li>• V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836)</li> </ul> <p><b>Does not contain an MSA safety helmet.</b></p>	<ul style="list-style-type: none"> <li>• Hi-viz orange V-Gard Cap with ratchet suspension (PN 488146)</li> <li>• V-Gard Frame for Slotted Caps; with debris control (PN 10115730)</li> <li>• V-Gard Mesh Nitrometer (PN 10116558)</li> <li>• V-Gard Retractable Chin Protector (PN 10115828)</li> <li>• left/RIGHT, HIGH (NRR 28 db) Cap-Mounted Earmuffs (PN 10087422)</li> </ul>	<ul style="list-style-type: none"> <li>• White V-Gard Cap with ratchet suspension (PN 475358)</li> <li>• V-Gard Frame for Slotted Caps (PN 10121266)</li> <li>• 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.</li> <li>• Rated to 11.3 cal/cm<sup>2</sup> 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)</li> </ul>

 **WARNING: The products listed below can expose you to chemicals including Bisphenol A (BPA), which is known to the State of California to cause cancer or reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).**

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10118695	V-Gard Accessory System Kit with clear, polycarbonate visor and hard hat	Bisphenol A (BPA)	Reproductive Toxicity
10118697	V-Gard Accessory System Kit with clear, polycarbonate visor (no hard hat)	Bisphenol A (BPA)	Reproductive Toxicity

<sup>1</sup> 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.  
<sup>2</sup> 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.

## V-Gard Frameless Barrier

			
<b>PART NO.</b>	10215336 for V-Gard <b>Cap</b> , 25/pkg.	10215337 for V-Gard <b>Hat</b> , 25/pkg.	
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• A frame-less and lightweight solution that allows the user to quickly affix to any cap style MSA V-Gard, V-Gard Green, or SmoothDome Hard Hat.</li> <li>• Helps protect the eyes, nose, and mouth against droplets and splash.</li> </ul>	<ul style="list-style-type: none"> <li>• Durable surface allows the unit to be cleaned/decontaminated after each use and put back into service. The average replacement cycle is 30 days.<sup>1</sup></li> <li>• Clear lens allows the user to maintain visibility of their work and surroundings</li> </ul>	






**WARNING:** The products listed below can expose you to chemicals including Bisphenol A (BPA), which is known to the State of California to cause cancer or reproductive harm. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10215336	V-Gard Frameless Barrier, V-Gard Cap (pkg of 25)	Bisphenol A (BPA)	Reproductive Toxicity
10215337	V-Gard Frameless Barrier, V-Gard Hat (pkg of 25)	Bisphenol A (BPA)	Reproductive Toxicity

## Hard Hat Accessories

### V-Gard Winter Liners

V-Gard Winter Liners deliver extra warmth and protection under hard hats.

			
<b>PRODUCT</b>	V-Gard Winter Liner, Knit Cap	V-Gard Winter Liner, Knit Hat/Cap Cover	V-Gard Supreme Liner, Flame-Resistant 2-piece
<b>PART NO.</b>	10118417 	10118418	10118427 
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Stylish skullie cap</li> <li>• Design prevents liner from obstructing vision</li> <li>• 100% high bulk acrylic</li> <li>• Sold in sets of 12</li> </ul>	<ul style="list-style-type: none"> <li>• 100% acrylic</li> <li>• Bright yellow-green for greater visibility</li> <li>• Full face tube mounts under or over brim of MSA caps or hats, covering ears, mouth, cheeks and neck</li> <li>• Extended nape and wraparound collar for tucking into coat/shirt</li> <li>• Sold in sets of 12</li> </ul>	<ul style="list-style-type: none"> <li>• Fabric tested to withstand arc exposure to an ATPV of 8 cal/cm<sup>2</sup></li> <li>• Water repellant</li> <li>• Inside neck pocket holds warming packet<sup>2</sup></li> <li>• Multi-layered flame-resistant top cap</li> <li>• Extended, zipper on/off high-bulk flame-resistant knit bottom</li> <li>• No metal parts</li> <li>• Sold in sets of 3</li> </ul>

**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.<sup>3</sup> For this reason, only V-Gard Supreme Liner offers resistance to arc exposure.

<sup>1</sup> Follow all instructions and perform daily, pre-, and post-use inspections.

<sup>2</sup> Warming packets available at most sporting goods retailers; not sold with liners.




<sup>3</sup> Garment care instructions must be followed.

# Head, Eye, Face, and Hearing Protection

## Hard Hat Accessories

### Chinstraps

		
<b>PART NO.</b>	GA90047	
<b>FEATURES</b>	• Universal 4-point chinstrap	

			
<b>PART NO.</b>	10171103 <sup>1</sup>	10171104	10171105
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Non-metal chinstraps keep helmets in place</li> <li>• Flexible construction and adjustable design for long-wearing comfort</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 2-pt</li> <li>• 3/4" Nomex webbing</li> <li>• Attaches to shell</li> </ul>	<ul style="list-style-type: none"> <li>• 2-pt</li> <li>• 3/4" polyester webbing</li> <li>• Attaches to shell</li> </ul>	<ul style="list-style-type: none"> <li>• 2-pt</li> <li>• 3/4" cotton webbing</li> <li>• Attaches to shell</li> </ul>

			
<b>PART NO.</b>	10171106	10171107	10124238 
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Non-metal chinstraps keep helmets in place</li> <li>• Flexible construction and adjustable design for long-wearing comfort</li> </ul>		
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• 2-pt</li> <li>• 3/4" cotton webbing</li> <li>• Attaches to suspension<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 2-pt</li> <li>• 3/4" polyester webbing</li> <li>• Attaches to suspension<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• 4-pt</li> <li>• 3/4" polyester webbing</li> <li>• Attaches to suspension<sup>2</sup></li> <li>• Pkg of 10</li> </ul>

<sup>1</sup>For elevated temperatures; flame-resistant. Not recommended for use where molten metal splash hazards exist.  
<sup>2</sup>Staz-On suspension only.

## Hard Hat Accessories

### SunShade Hard Hat Accessory

<b>PART NO.</b>	10098032	10098031
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Fit most hats and caps</li> <li>• Breathable, bright mesh fabric</li> <li>• Hat clips help to keep SunShade from falling or rotating</li> <li>• Minimum order quantity: 5</li> </ul>	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Yellow-green, with reflective striping</li> </ul>	<ul style="list-style-type: none"> <li>• Orange, with reflective striping</li> </ul>

<b>PART NO.</b>	10068911	696688
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Custom design fits all MSA suspensions</li> <li>• Washable, with plastic snaps</li> </ul>	
<b>PRODUCT SPECIFICS</b>	• Single	• Pkg of 10

### Sun Shields

<b>PART NO.</b>	697290	697410	10039114
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Easily attaches to helmets and caps</li> <li>• Polyurethane brim extender protects against sun and heat</li> <li>• Smoke-tinted Lexan front for extra protection</li> </ul>		
<b>PRODUCT SPECIFICS</b>	• For standard V-Gard Caps only	• For standard V-Gard Hats only	• For standard V-Gard 500 Caps only

### Emergency Medical Info Accessory

<b>PART NO.</b>	10013393	
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Provides crucial, lifesaving information in the event of a medical crisis on the job</li> </ul>	
<b>PRODUCT SPECIFICS</b>	<ul style="list-style-type: none"> <li>• Pkg of 10</li> <li>• Trilingual: English/Spanish/French</li> </ul>	

### In-Service Helmet Label

<b>PART NO.</b>	804358
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• To track shell's service life, affix label inside helmet with date of helmet's first use</li> <li>• MSA recommended replacement: shell every 5 years/suspension every 12 months</li> </ul>
<b>PRODUCT SPECIFICS</b>	• Sheet of 25 labels

# Head, Eye, Face, and Hearing Protection

MSA's line of hearing protection products offers what customers want most: economical options, cutting-edge technology, quality, and outstanding performance.



## Helmet-Mounted

### V-Gard® Cap-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.

PRODUCT NAME	V-Gard	V-Gard	V-Gard
ATTENUATION LEVEL	LOW	MEDIUM	HIGH
PART NO.	10190356	10190357	10190358
NRR <sup>2</sup>	22 dBA	27 dBA	31 dBA
SNR	28	32	36

PRODUCT NAME	Hygiene Kit	Hygiene Kit	Hygiene Kit	Helmet Adapter
PART NO.	10193450	10193451	10193452	10193449
PRODUCT FEATURES	for V-Gard Cap-Mounted Hearing Protection, <b>LOW</b>	for V-Gard Cap-Mounted Hearing Protection, <b>MEDIUM</b>	for V-Gard Cap-Mounted Hearing Protection, <b>HIGH</b>	for V-Gard Cap-Mounted Hearing Protection

<sup>1</sup> [https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation\\_estimation.html](https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation_estimation.html)

<sup>2</sup> The Noise Reduction Rating (NRR) is third-party tested in accordance with: ANSI S3.19-1974; ANSI S12.6-2008; CSA Class A; EN 352-3:2002; AS/NZ S1270:2002.

## Helmet-Mounted

### 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

<b>PRODUCT NAME</b>	SoundControl SH	Sound Blocker™ 26	Soprano™	Hygiene Kit
<b>PART NO.</b>	10129327	10022021	10034487	10003360
<b>NRR</b>	25 dBA	26 dBA	25 dBA	—
<b>PRODUCT FEATURES</b>	<ul style="list-style-type: none"> <li>• For use with MSA slotted <b>full brim</b> helmets</li> <li>• Does not interfere with Class E rating of MSA slotted full brim helmets</li> <li>• 3 wearing positions</li> </ul>	<ul style="list-style-type: none"> <li>• For use with MSA <b>non-slotted cap-style</b> hard hats</li> <li>• Requires drilling into helmet to mount muffs</li> <li>• ANSI/ISEA Z89.1 class rating of drilled helmet is Class C</li> </ul>	<ul style="list-style-type: none"> <li>• For use with MSA <b>non-slotted full brim</b> hats</li> <li>• Requires drilling into helmet to mount muffs</li> <li>• ANSI/ISEA Z89.1 class rating of drilled helmet is Class C</li> </ul>	<ul style="list-style-type: none"> <li>• Works with SoundControl SH and SoundBlocker 26 hearing protection</li> </ul>



*Noise Reduction Rating (NRR) describes average sound level reduction (attenuation) provided by hearing protectors within a laboratory setting. Because NRR reflects lab (and perhaps not real-world) usage, the Occupational Safety and Health Administration (OSHA), recommends de-rating the NRR to help account for incorrect fit and inconsistent wear time on worksites. OSHA's methodology for Estimating Hearing Protector Attenuation<sup>1</sup>:*

1. 8-hour Time Weighted Exposure (TWA) = 94 dBA
2. NRR of hearing protector = 31 dBA
3. Subtract 7 dB from the NRR = 31 dB – 7 dB is 24 dB
4. Reduce value by 50% = 12 dB
5. Subtract this value from the TWA = 82 dB (Estimated Protection)
6. Decide if Estimated Protection works for your environment!



## Headband

### left/RIGHT Hearing Protection

MSA left/RIGHT Hearing Protection cups can be adjusted to the ear's angle, and also independently raised or lowered.

**Markets:** General industry, manufacturing, repair and maintenance, construction, OGP, forestry, shipbuilding, mining

**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards




**Compatible PPE:**

**Applications:**

- Heavy mechanical industries, compression rooms, airports (HIGH)
- Utilities, construction, general industry (MEDIUM)
- Food manufacturing, automotive, light industry (LOW)

- V-Gard Slotted and Universal Frames—no additional parts needed
- Most V-Gard Visors
- MSA slotted caps

			
<b>PRODUCT NAME</b>	left/RIGHT (HIGH)	left/RIGHT (MEDIUM)	left/RIGHT (LOW)
<b>PART NO.</b>	10087399	10087426	10087436
<b>NRR</b>	28 dBA	25 dBA	21 dBA
<b>PRODUCT FEATURES</b>	• For use in high-noise environments, such as paper mills, foundries, mines and airports	• For use in medium-noise environments, such as oil, gas and petrochemical, forestry and agriculture	• For use in low-noise environments, such as pharmaceuticals and outside maintenance, where overprotection is a concern

			
<b>PRODUCT NAME</b>	left/RIGHT (HIGH) Hygiene Kit	left/RIGHT (MEDIUM) Hygiene Kit	left/RIGHT (LOW) Hygiene Kit
<b>PART NO.</b>	10092880	10092879	10092878
<b>PRODUCT FEATURES</b>	• Cushions and inserts • Works with left/RIGHT Hearing Protection passive helmet-mounted or headband products		



*EPA requirement (40 CFR 211) specifies that hearing protectors sold in the U.S. must be tested to ANSI S3.19-1974 and labeled with a Noise Reduction Rating (NRR). MSA hearing protectors have been tested and labeled according to EPA requirements. Standards organizations such as ANSI and CSA do not approve or certify hearing protectors.*



*An earmuff's attenuation depends upon the muff's fit against the head and around the pinnae (i.e., seal tightness). 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 items with a thin strap or very thin temple. If the gap is noticeable, the protection level is compromised.*


## Headband


### 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

		
<b>PRODUCT NAME</b>	SoundControl HPE	SoundControl EXC
<b>PART NO.</b>	10061271	10061229
<b>NRR</b>	26 dBA	24 dBA
<b>PRODUCT FEATURES</b>	<ul style="list-style-type: none"> <li>• Lightweight, low-profile</li> <li>• High attenuation and excellent sealing for reliable protection</li> <li>• Headband design and 2-point cup mounting distributes weight evenly, offering outstanding balance and comfort</li> <li>• No metal parts</li> <li>• Cups can be moved to various wearing positions for custom fit</li> </ul>	<ul style="list-style-type: none"> <li>• Unique injection-molded inserts provide excellent attenuation and maximum ear space</li> <li>• Medium attenuation for moderate high noise exposures</li> <li>• 3 distinct wearing positions</li> <li>• Cups can be moved to a range of wearing positions for custom fit</li> </ul>

	
<b>PRODUCT NAME</b>	HPE Hygiene Kit
<b>PART NO.</b>	10061291
<b>PRODUCT FEATURES</b>	• Foam cushions and inserts

	
<b>PRODUCT NAME</b>	EXC Hygiene Kit
<b>PART NO.</b>	10061292
<b>PRODUCT FEATURES</b>	• 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<sup>1</sup>

		
<b>PRODUCT NAME</b>	Economuff Multi-Position	Economuff
<b>PART NO.</b>	10061273	10004291
<b>NRR</b>	23 dBA (under chin/behind head)	24 dBA (over the head)
<b>PRODUCT FEATURES</b>	<ul style="list-style-type: none"> <li>• Offers 3 positions: under the chin, behind the head or over the head</li> <li>• Under the chin or behind the head positions allow use of head protection</li> <li>• Durable design for use in tough environments</li> <li>• No metal parts</li> <li>• Padded headband makes longer wear possible</li> <li>• 1 size fits most</li> </ul>	<ul style="list-style-type: none"> <li>• Soft wide cushions maintain comfortable pressure around ears</li> <li>• Lightweight</li> <li>• 1 size fits most</li> <li>• No metal parts</li> <li>• Most economical option</li> </ul>


<sup>1</sup>Economuff Earmuff multi-position worn in behind-the-head or under-the-chin positions only.


## Headband

### left/RIGHT Electronic Hearing Protection


There are three different headband models of MSA left/RIGHT electronic hearing protection. Whether you want to listen to soothing music while you work or just reduce the high-noise around you ... or both ... MSA has your product. Like all left/RIGHT products, the cups can be adjusted to meet the angle of the ear, and also independently raised or lowered.


- Classification:** Helmet-Mounted, Electronic with Radio  
**Markets:** General industry, manufacturing, repair and maintenance, construction, OGP, forestry, mining, agriculture  
**Applications:** Manufacturing/assembly, high-impulse noise environments (such as steelworking)  
**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards

	Product Name	Part No.	NRR	Product Features
	left/RIGHT FM Pro	10108381	22 dBA	<ul style="list-style-type: none"> <li>• FM radio with excellent reception and superior sound quality</li> <li>• Sound levels limited to a safe 82dB</li> <li>• Automatic tuning and volume adjustment via push buttons</li> <li>• Battery save and low battery warning functions</li> <li>• AUX input for MP3 player or communication headset</li> </ul>

	Product Name	Part No.	Product Features
	left/RIGHT FM Pro Hygiene Kit	10094605	<ul style="list-style-type: none"> <li>• Cushions, distance rings and inserts</li> <li>• Works with left/RIGHT helmet-mounted or headband electronic product versions</li> </ul>


- Classification:** Headband, Electronic with CutOff  
**Markets:** General industry, manufacturing, repair and maintenance, construction, OGP, forestry, mining  
**Applications:** Manufacturing/assembly, food processing, high- and impulse noise environments (such as steel and shipyards)  
**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards


	Product Name	Part No.	NRR	Product Features
	left/RIGHT CutOff Pro	10111789	22 dBA	<ul style="list-style-type: none"> <li>• Sound levels limited to a safe 82 dB</li> <li>• Innovative headband design provides optimal fit and comfort</li> <li>• Enables face to face communication while hearing is protected</li> <li>• Amplifies weak signals through the electronic system</li> <li>• Battery save and low battery warning functions</li> <li>• AUX input for MP3 player or communication headset</li> </ul>

	Product Name	Part No.	Product Features
	left/RIGHT FM Pro Hygiene Kit	10094605	<ul style="list-style-type: none"> <li>• Cushions, distance rings and inserts</li> <li>• Works with left/RIGHT helmet-mounted or headband electronic product versions</li> </ul>

## Headband

**Classification:** Heaband, Electronic , FM Radio & CutOff Combination  
**Markets:** General industry, manufacturing, repair and maintenance, construction, OGP, forestry, mining, agriculture  
**Applications:** Manufacturing/assembly, high-impulse noise environments (such as steelworking)  
**Standards:** Meets ANSI S3.19-1974 and CSA Class A Standards

	Product Name	Part No.	NRR	Product Features
	left/RIGHT Dual Pro	10108385	22 dBA	<ul style="list-style-type: none"> <li>• FM radio with excellent reception and superior sound quality</li> <li>• Speaker audio is limited to a safe 82 dB</li> <li>• Innovative headband design provides optimal fit and comfort</li> <li>• Enables face-to-face communication while hearing is protected</li> <li>• Level-dependent function allows users to hear ambient sounds (like warning signals and moving vehicles)</li> <li>• Requires two 1.5V AA/LR6 batteries; ~300 operating hours</li> <li>• Low battery warning signal</li> <li>• AUX input for MP3 player or communication headset</li> </ul>

	Product Name	Part No.	Product Features
	left/RIGHT FM Pro Hygiene Kit	10094605	<ul style="list-style-type: none"> <li>• Cushions, distance rings and inserts</li> <li>• Works with left/RIGHT helmet-mounted or headband electronic product versions</li> </ul>



*The EPA requirement (40 CFR 211) specifies that hearing protectors sold in the U.S. must be tested to ANSI S3.19-1974 and labeled with a Noise Reduction Rating (NRR). MSA Hearing Protectors have been tested and labeled according to the EPA requirements. Standards organizations, such as ANSI and CSA, do not approve or certify hearing protectors.*

# Head, Eye, Face, and Hearing Protection

## Sightgard Safety Glasses

**Material:** Polycarbonate

**Standards<sup>1</sup>:** 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		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff™ Anti-Scratch Coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Frameless and lightweight</li> <li>Among our most popular models</li> <li>Full side coverage</li> </ul>	

INDOOR		
MODEL		Discovery II
PART NO.		10106382 
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Flexible, nylon temple arms adjust to head width</li> <li>Soft nose bridge</li> <li>Extra-lightweight</li> </ul>	

INDOOR		
MODEL		Luxor
PART NO.		697516 
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Single wrap-style lens</li> <li>Horizontal temple adjustment</li> </ul>	



INDOOR		
MODEL		Sierra
PART NO.		697550 
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Classic full-coverage look</li> <li>Adjustable temples</li> <li>Integral side</li> </ul>	

INDOOR		
MODEL		Vista
PART NO.		10070914
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Frameless and lightweight</li> <li>Among our most popular models</li> <li>Full side coverage</li> </ul>	


### 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		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> <li>Anti-fog coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Rubber tipped temples and nosebridge for comfortable, yet secure fit</li> </ul>	

INDOOR/HUMID		
MODEL		Aurora
PART NO.		10026005
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> <li>Anti-fog coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Ratchet temple adjustment</li> <li>Single, 7-base wrap curve lens</li> </ul>	

INDOOR/HUMID		
MODEL		Pyrenees
PART NO.		10033718
SAFETY FEATURES		<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Anti-fog coating</li> </ul>
STYLING	<ul style="list-style-type: none"> <li>Clear lens</li> <li>Full side protection</li> <li>Dual injected, soft-tipped temples</li> </ul>	

<sup>1</sup> CSA International certified models are denoted with a  symbol

## Sightgard Safety Glasses

**Material:** Polycarbonate

**Standards<sup>1</sup>:** ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

**Certification:** Third-party by ICS and CSA International

**Minimum Order Qty:** 12


<b>INDOOR/HUMID</b>		
<b>MODEL</b>		
Voyager		
<b>PART NO.</b>		
10065849		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Clear lens</li> <li>• Single wrap-style lens</li> </ul>	




### 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

<b>INDOOR/OUTDOOR</b>		
<b>MODEL</b>		
Arctic		
<b>PART NO.</b>		
10008179		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-scratch coating</li> <li>• Anti-fog coating</li> <li>• Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>• Blue mirror reduces glare without causing color degradation</li> <li>• Popular, lightweight model</li> <li>• Full side coverage</li> </ul>	

<b>INDOOR/OUTDOOR</b>		
<b>MODEL</b>		
Arctic Elite		
<b>PART NO.</b>		
10059671		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> <li>• Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor/outdoor mirror allows workers to go from bright to low light conditions</li> <li>• Rubber tipped temples and nosebridge for comfortable, yet secure fit</li> </ul>	

<b>INDOOR/OUTDOOR</b>		
<b>MODEL</b>		
Vista		
<b>PART NO.</b>		
10070916 		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Tuff Stuff Anti-Scratch Coating</li> <li>• Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>• Indoor/outdoor mirror allows workers to go from bright to low light conditions</li> <li>• Vertical temple adjustment</li> <li>• Lightweight, single lens</li> </ul>	

### Outdoor

**Markets:** Aviation, general manufacturing, mining, oil and gas, pharmaceuticals, primary metals, transportation

**Applications:** Assembly and mechanical, chipping, chiseling, drilling, grinding, machining, sanding, sawing

<b>OUTDOOR</b>		
<b>MODEL</b>		
Arctic		
<b>PART NO.</b>		
697515 		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-scratch coating</li> </ul>	<ul style="list-style-type: none"> <li>• Gray tint lens</li> <li>• Temples flex for a custom fit</li> <li>• Full side coverage</li> </ul>	

<b>OUTDOOR</b>		
<b>MODEL</b>		
Arctic Elite		
<b>PART NO.</b>		
10038846 		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Gray tint lens</li> <li>• Rubber tipped temples and nosebridge for comfortable, yet secure fit</li> </ul>	

<b>OUTDOOR</b>		
<b>MODEL</b>		
Easy Flex		
<b>PART NO.</b>		
10070918 		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Gray tint lens</li> <li>• Temples flex for a custom fit</li> </ul>	

<b>OUTDOOR</b>		
<b>MODEL</b>		
Easy Flex		
<b>PART NO.</b>		
10070921 		
<b>SAFETY FEATURES</b>	<b>STYLING</b>	
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Rich-orange mirrored lens reflects light and reduces glare without color degradation</li> <li>• Temples flex for a custom fit</li> </ul>	

<sup>1</sup> CSA International certified models are denoted with a  symbol

# Head, Eye, Face, and Hearing Protection

## Sightgard Safety Glasses

**Material:** Polycarbonate

**Standards<sup>1</sup>:** 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	
Luxor	
PART NO.	
697517	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>Gray tint lens</li> <li>Horizontal temple adjustment</li> <li>Wrap-style single lens</li> </ul>

OUTDOOR	
MODEL	
Pyrenees 	
PART NO.	
10033719	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>Gray tint lens</li> <li>Full side protection</li> <li>Dual-injected soft-tipped temples</li> <li>Single wrap-style lens</li> </ul>

OUTDOOR/UV	
MODEL	
Racer Red	
PART NO.	
10106381	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Anti-fog coating</li> <li>Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>Rich-red mirrored lens reflects light and reduces glare without color degradation</li> <li>Ideal for utility, aviation, mining, and transportation markets</li> <li>Sporty, single, wide-wrap lens</li> </ul>



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.

### 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



### 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

OUTDOOR/UV	
MODEL	
Feather Fit	
PART NO.	
10106384 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>Gray tint lens</li> <li>Comfortable rubber flange nosepiece</li> <li>Rubber temple grips help glasses stay put under hot working conditions</li> </ul>

OUTDOOR/UV	
MODEL	
Voyager	
PART NO.	
10065850	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Anti-scratch coating</li> <li>Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>Gray tint lens</li> <li>Single lens</li> </ul>

OVER-THE-GLASSES	
MODEL	
OvrG™ II	
PART NO.	
10118475 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>Clear lens</li> <li>For use over small-to-medium Rx glasses</li> <li>Squared-off, stylish look</li> <li>30% lighter weight than standard visitor specs</li> </ul>

OVER-THE-GLASSES	
MODEL	
OvrG II	
PART NO.	
10118476 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Maximum UV protection (U6)</li> </ul>	<ul style="list-style-type: none"> <li>Indoor/outdoor mirrored lens</li> <li>For use over small-to-medium Rx glasses</li> </ul>

<sup>1</sup> CSA International certified models are denoted with a  symbol

## Sightgard Safety Glasses

**Material:** Polycarbonate

**Standards<sup>1</sup>:** ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

**Certification:** Third-party by ICS and CSA International

**Minimum Order Qty:** 12

OVER-THE-GLASSES	
MODEL	
Rx Overglasses	
PART NO.	
10118476 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Clear lenses</li> <li>• Fits over most Rx glasses</li> <li>• Horizontal and vertical temple adjustment</li> </ul>

OVER-THE-GLASSES	
MODEL	
Plant Visitor	
PART NO.	
10027944 (ea) 697500 (10/box) 10008174 (144/box)	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> </ul>	<ul style="list-style-type: none"> <li>• Clear lens</li> <li>• Classic look fits over most Rx glasses</li> <li>• Integral, vented side shields</li> </ul>

### 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
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Amber lens increases contrast in low light</li> <li>• Temples flex for a custom fit</li> <li>• Full side coverage</li> </ul>

LOW LIGHT	
MODEL	
Pyrenees	
PART NO.	
10033740	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Amber lens increases contrast in low light</li> <li>• Full side protection</li> <li>• Dual-injected soft-tipped temples</li> </ul>

### 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
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Clear lenses</li> <li>• Full side protection</li> <li>• Dual-injected soft-tipped temples</li> </ul>

### 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
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> </ul>	<ul style="list-style-type: none"> <li>• Classic look with Infrared (IR) radiation eye protection, up to Shade 5</li> <li>• Fits over most Rx glasses</li> <li>• Integral, vented side shields</li> </ul>

<sup>1</sup> CSA International certified models are denoted with a  symbol



## Sightgard Safety Goggles Selection Guide


STYLE	CONDITIONS		
	General purpose: impact/splash	Industrial: impact/splash	Industrial: chemical/splash
VERTOGGLE™	■	■	
FLEXICHEM™ IV	■	■	■
CLEARVUE® 200	■	■	
VAULT™	■	■	
SIGHTGARD NV	■		
SIGHTGARD iV	■		

## Sightgard Safety Goggles

Standards<sup>1</sup>: ANSI/ISEA Z87.1-2015 and CSA Z94.3

Certification: Third-party by ICS and CSA International

SAFETY GOGGLES	
MODEL	
Sightgard Vertoggle™ Safety Goggles/ Faceshield Combination	
PART NO.	
10150069 	
	
	
SAFETY FEATURES	PRODUCT SPECIFICS
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Splash-rated (D3)</li> <li>Anti-fog coating anti-scratch coating on goggle lens</li> </ul>	<ul style="list-style-type: none"> <li>Clear polycarbonate lens</li> <li>Frosted polycarbonate faceshield</li> <li>Soft, pliable goggle body helps ensure all-day comfort</li> <li>Unique, articulated lift-front retains the shield on the goggle in any of five positions</li> <li>Indirect venting on goggle and faceshield improve airflow while providing splash and high impact protection</li> <li>Entire assembly tested at ANSI/ISEA Z87.1-2010 faceshield impact speed (300 ft/sec)</li> <li>Fully adjustable FR-tested (CSA Z94.3 test methodology) elastic strap prevents hair pulling</li> <li>Disposable respirators can be worn under shield</li> <li>Designed to work with MSA goggle retainers</li> <li>Minimum order quantity: 5</li> </ul>

SAFETY GOGGLES	
MODEL	
FlexiChem iV	
PART NO.	
10106281 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Splash-rated (D3)</li> <li>Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>Clear acetate lens resists warping, cracking and crazing from chemical splash</li> <li>Flame-retardant strap</li> <li>Soft, pliable goggle body ensures all-day comfort</li> <li>Indirect vent helps eliminate fogging while retaining splash resistance</li> <li>Minimum order quantity: 6</li> </ul>

SAFETY GOGGLES	
MODEL	
Clearvue 200	
PART NO.	
10029693 	
	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>Impact-rated (Z87+)</li> <li>Splash-rated (D3)</li> <li>Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>Clear acetate lens resists warping, cracking and crazing from chemical splash</li> <li>Flame-retardant strap</li> <li>Soft, pliable goggle body ensures all-day comfort</li> <li>Indirect vent helps eliminate fogging while retaining splash resistance</li> <li>Minimum order quantity: 6</li> </ul>

 **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](http://www.P65Warnings.ca.gov).**

MSA Product Part No.	MSA Product Description	CA Prop 65 Chemical Name	Chemical Hazard Type
10150069	Safety Goggle and Faceshield Combination, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive
10106281	Safety Goggles, FlexiChem iV, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive
10029693	Safety Goggles, Clearvue 200, Clear	DEHP (di-(2-ethylhexyl)phthalate	Carcinogen & Reproductive

<sup>1</sup> CSA International certified models are denoted with a  symbol



## Sightgard Safety Goggles

Standards<sup>1</sup>: 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	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Splash-rated (D3)</li> <li>• Anti-fog coating</li> <li>• Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Non-vented for tighter seal</li> <li>• Minimum order quantity: 12</li> </ul>

SAFETY GOGGLES	
MODEL	 
Sightgard iV	
PART NO.	
10106270 	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Splash-rated (D3)</li> <li>• Anti-fog coating</li> <li>• Tuff Stuff Anti-Scratch Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Indirect-venting helps keep goggles fog-free</li> <li>• Minimum order quantity: 12</li> </ul>

SAFETY GOGGLES	
MODEL	 
Vault	
PART NO.	
10106282	
SAFETY FEATURES	STYLING
<ul style="list-style-type: none"> <li>• Impact-rated (Z87+)</li> <li>• Splash-rated (D3)</li> <li>• Anti-fog coating</li> </ul>	<ul style="list-style-type: none"> <li>• Modern styling</li> <li>• Comfortable, thick strap</li> <li>• Minimum order quantity: 6</li> </ul>

## Eyewear and Goggle Accessories

				
PRODUCT	Goggle Retainer	Deluxe Eyewear Lanyard	Fogpruf™ Cleaner Refill	Towelettes
PART NO.	459458 for caps 449895 for hats  	10020871	13016	10022087 
DESCRIPTION	<ul style="list-style-type: none"> <li>• Sturdy neoprene-rubber accessory</li> <li>• Can be used with any protective cap or hat</li> <li>• Retains goggle on headwear when not in use</li> <li>• Holds goggle securely when worn for eye protection.</li> </ul> <p><b>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.</b></p>	<ul style="list-style-type: none"> <li>• Holds eyewear securely</li> <li>• Lanyard strap slides over temple</li> <li>• Pkg of 12</li> </ul>	<ul style="list-style-type: none"> <li>• 4 Oz. bottle</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-moistened</li> <li>• Box of 100</li> </ul>

 **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](http://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

<sup>1</sup> CSA International certified models are denoted with a  symbol

## 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:

### 1 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 Nomex hood.

### 2 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.

### 3 Best In Class

In a survey of firefighters across the nation<sup>1</sup>, the majority listed MSA Cairns Helmets brand as *best in class*.<sup>1</sup> 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.

### 4 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 free from defects in materials and/or faulty workmanship<sup>2</sup>. 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.

### 5 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.MSAafety.com](http://www.MSAafety.com)



For complete information about Cairns Fire and Rescue Helmets, see Bulletin 3600-01-MC.

## 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.<sup>3</sup>

**NEW!**



### 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.

### 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.

### INTEGRATED VISOR

The optional integrated ocular 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.

### 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.<sup>4</sup>

### 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.

### 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.



For complete information about Cairns XF1 Fire Helmets, see Bulletin 3600-97-MC.



<sup>1</sup>Fire helmet brand assessment study conducted by outside research firm for MSA.

<sup>2</sup>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.MSAafety.com](http://www.MSAafety.com).



<sup>3</sup>Accessories are not certified to NFPA; however, their addition to the helmet does not affect NFPA compliance.

<sup>4</sup>This information based on Beta trial of 250 participants with various facepieces, including competitor SCBA.

## 1010 & 1044 Helmets


		<b>FEATURES</b>	<b>BENEFITS</b>
<b>1010 Helmet</b> <i>(shown with NFPA Bourkes)</i>	<b>1044 Helmet</b> <i>(shown with Defender Visor)</i>	Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
<b>FOR STRUCTURAL AND PROXIMITY FIREFIGHTING</b>		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
<b>Most popular Cairns Helmet models:</b> <ul style="list-style-type: none"> <li>• 1010: painted high-luster finish</li> <li>• 1044: unpainted matte finish</li> </ul> <b>Certified to NFPA 1971</b> <ul style="list-style-type: none"> <li>• Certified for proximity firefighting (with bonnet, shroud and gold-coated faceshield)</li> </ul>		<b>NEW</b> 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).

## 660C Metro® & Invader 664® Helmets

		<b>FEATURES</b>	<b>BENEFITS</b>
<b>660C Metro Helmet</b> <i>(shown with Defender Visor)</i>	<b>Invader 664 Helmet</b> <i>(shown with Defender Visor)</i>	Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
<b>FOR STRUCTURAL AND PROXIMITY FIREFIGHTING</b>		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
<ul style="list-style-type: none"> <li>• Most popular modern helmet models</li> <li>• Sleek, low-profile design: <ul style="list-style-type: none"> <li>• 660C Helmet: painted high-luster finish</li> <li>• 664 Helmet: unpainted matte finish</li> </ul> </li> <li>• Certified to NFPA 1971</li> <li>• Certified for proximity firefighting (with bonnet, shroud and gold-coated faceshield)</li> <li>• Hat sizes: 6¾ to 8¾</li> </ul>		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.

\*Through color is present on black, red, white, and yellow. All others are painted over white shell.

## Commando HP3® Helmets

 <p><b>Commando HP3 Helmet</b> (shown with Defender Visor)</p> <p><b>FOR STRUCTURAL FIREFIGHTING AND URBAN SEARCH AND RESCUE (USAR)</b></p> <ul style="list-style-type: none"> <li>• Same shell as 660C Helmet with back watershed trimmed</li> <li>• Lightest fiberglass helmet</li> <li>• Painted high-luster finish</li> </ul> <p><b>Certified to NFPA 1971 and 1951</b></p> <ul style="list-style-type: none"> <li>• Sleek, low-profile design</li> <li>• Hat sizes: 6<math>\frac{3}{8}</math> to 8<math>\frac{3}{8}</math></li> </ul>	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
	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. Available in two- or three-point chin strap to maximize helmet retention.	

## 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	Features
CAIRNS 1010	1010FSB	Black	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	1010DSB	Black	With Clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
CAIRNS 1044	1044FSB	Black	With 4" Tuffshield, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	1044DSR	Red	With Clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	1044DSY	Yellow	With Clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	1044DSB	Black	With Clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
	1044DSW	White	With Clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
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.

## 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. Give the completed form(s) to your sales representative or fax them to 800-967-0398.

- 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



## Select Replacement Parts

Part No.	Description	Cairns 1010 & 1044 Helmets	660C Metro & Invader 664 Helmets	Commando HP3 Helmets
<b>DEFENDER VISOR</b>				
10077117	Clear lens	■	■	■
10077118	Amber Tuffshield lens	■	■	■
<b>BOURKE'S LENSES</b>				
10186311	NFPA-compliant Bourke's lens and hardware kit*	■		
10189241	Hole plug kit (10 helmets)**	■		
<b>SOFT GOODS KITS</b>				
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	■		
<b>EARLAPS</b>				
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.

# PERFORMANCE AND PROTECTION IN PERFECT BALANCE.

**Globe gear is designed to meet the new challenges you face every day to help keep you safe and healthy throughout your career and beyond.**

## ATHLETIX™

- New material technology enables all-new athletic design with unique stretch fabrics that allow closer, body-contoured fit to provide unprecedented range of motion with less bulk, more flexibility, and lighter weight.
- New PBI® STRETCH fabric with KEVLAR® allows less bulky fit with unprecedented range of motion and more flexibility, while providing premium thermal break open protection.
- New NOMEX® NANO thermal barrier material is thinner, lighter, more flexible, more breathable, and quicker drying.
- New 3M™ SCOTCHLITE™ COMFORT TRIM reflective material is segmented and heat sealed to be lighter, more flexible, and breathable without sacrificing visibility.
- GORE® CROSSTECH® BLACK moisture barrier provides the highest breathability in the widest range of environmental conditions, to reduce heat stress.

Get the full story on ATHLETIX™ and the full line of Globe turnout gear at [MSAfire.com/Globe](http://MSAfire.com/Globe)

**MSA**  
The Safety Company

**GLOBE®**

116



# 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.

## SUPRAFLEX™

- Scientific studies have proven that lighter weight and more flexible footwear isn't just about comfort – it's about safety.
- Continuous segmented flex panels make these boots feel like your favorite pair of athletic shoes.
- Recessed pull-on handles are inset on the sides and hidden when not needed.
- Flexible NOMEX® webbing carry loops allow easy carrying when installed in turnout pants.
- Composite safety toe cap, puncture protection, and shank are lighter and far more flexible than steel and don't transmit heat or cold.

Get the full story on SUPRAFLEX™ and the full line of Globe boots at [MSAfire.com/Globe](http://MSAfire.com/Globe)



## Fall Protection

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Confined Space .....pages 142–153  
Personal Protective Equipment .....pages 154–195  
MSA Safety Training Courses .....pages 196–197



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

## 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

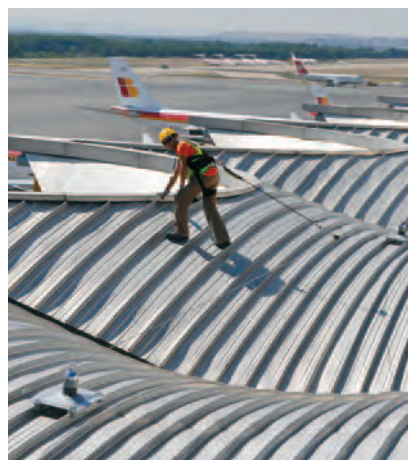
From overhead systems for above machinery operation to permanently installed lifelines, to temporary SRLs for one-off maintenance jobs, Latchways brings safety solutions to virtually any industrial manufacturing project. Our systems can link together horizontally, vertically and up inclines, and can 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 manufacturers, wind energy professionals rely on innovations like our Latchways Sealed Self-Retracting Lifeline for safety and our TowerLatch™ unit for uninterrupted ladder ascension.





## 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.

To take advantage of MSA's Design and Spec service, contact MSA at [spec@latchways.com](mailto:spec@latchways.com) or visit [latchways.com/spec-callback](http://latchways.com/spec-callback).

## What you can expect when you partner with us

When you use our in-house Design and Specification team, you can expect us to design the most ideal fall protection system layout for your project. We address all your needs, including:

- Assessing the risk
- Selecting the right system
- System applications
- User competency
- Product compatibility (with major roofing manufacturers, for example)
- Specifications (Master Format)
- Standard fixing details
- Design layout guidelines
- Alternative Latchways products to help meet your requirements

Our experts are proficient, so they can provide system designs for all applications, across all industries—from traditional horizontal systems used by construction to WinGrip® systems used by aerospace.

### BIM Portfolio and Resources

We're making it easier to integrate fall protection solutions into your BIM plans. With our portfolio of complex, intelligent BIM models, you can incorporate fall protection compliant with regulations to protect people working at height. Learn more and download resources at [latchways.com/bim-objects](http://latchways.com/bim-objects).



### Accredited AEC Seminars

As much an educator as we are an industry pioneer, MSA offers an accredited AEC Daily seminar, "Fall Protection Systems: Selection, Specification, and Compliance," that provides an overview of fall protection.

#### The 1.5 hour seminar covers topics including:

- Overview of fall protection
- The need for fall protection
- Fall arrest systems
- Fall protection standards and regulations

#### The seminar provides:

- An understanding of the key considerations when specifying a fall protection system—ensuring compliance with legislation and a solution which is fit for purpose
- An overview of OSHA legislation
- Details on system choice and design
- An explanation of test standards
- Information on product differentiation
- Points to consider surrounding other work-at-height scenarios

**CONTACT MSA TODAY TO SCHEDULE A SEMINAR!**

### MSA's Work-at-Height Proposal

MSA supplies all its customers with our Work-at-Height proposal—offering information and advice on how to provide a complete fall protection solution.

#### The proposal includes:

- A full system design (using the information provided in the Design Questionnaire)
- Information on the Latchways product range and how they are fit for the purpose for which they are intended
- Guidance on planning for rescue should a fall occur

#### Design Questionnaire

The completion of a Latchways Design Questionnaire enables us to specify a full design. The questionnaire takes into account:

- Areas requiring access
- Construction of area requiring fall protection (e.g., roof material)
- Any known hazards

#### Registered Installer Companies

MSA's Design and Specification service is supported by our global network of installer companies who play a full and proactive role in providing complete solutions for your chosen design— from installation and testing to certification and system maintenance.

## 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

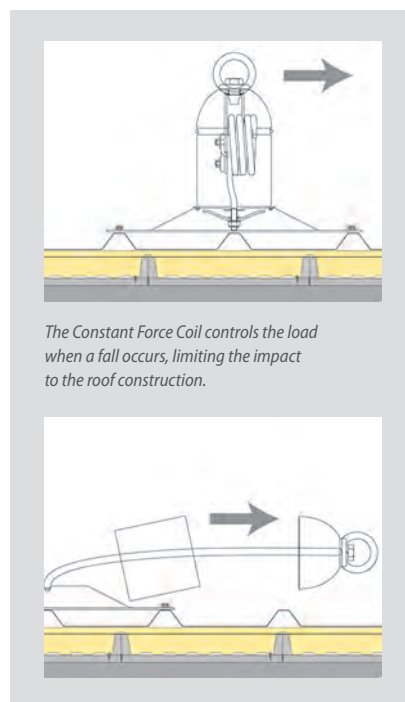
In typical leadership fashion, MSA takes the science of Latchways Constant Force and applies it to the fall protection industry—providing an easy-to-install, reliable and cost-effective solution to rooftop safety.

### 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.



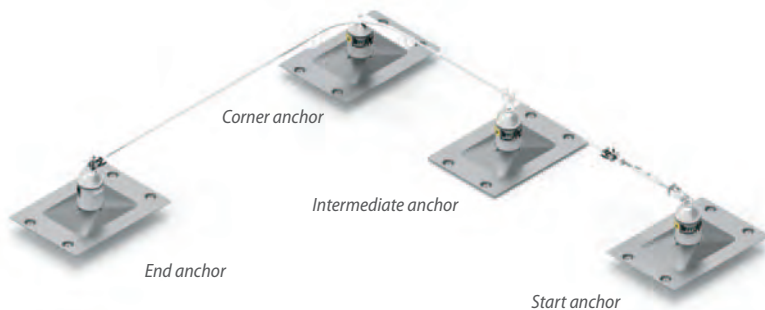
The Constant Force Coil controls the load when a fall occurs, limiting the impact to the roof construction.

## 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.

<p><b>Turnbuckle Assembly</b></p>	<p><b>Swage &amp; Clevis</b></p>	<p><b>90° Corner Bracket</b></p>	<p><b>Variable Bracket</b></p>	<p><b>D-Ring &amp; Hanger</b></p>	<p><b>Entry Terminal</b></p>
<p>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.</p>	<p>The swage and clevis unit provides the method of terminating the cable at the opposite end of the system to the turnbuckle assembly.</p>	<p>This one-piece corner bracket, attached to an intermediate anchor, provides an angle change of 90° within the system.</p>	<p>This bracket attaches to an intermediate anchor and provides an angle change of between 0° and 80° on either horizontal or vertical planes.</p>	<p>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.</p>	<p>Where a Transfastener is used on a system, the entry terminal is used to enable entry and connection.</p>



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. See page 133 for more information.

### 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. To understand how Latchways Constant Force Posts fix to manufacturers' individual roofing systems, please contact [spec@latchways.com](mailto:spec@latchways.com).

<p><b>Constant Force Post on standing-seam roofing</b></p> <p><b>Fixing Method:</b> 4 split clamps</p>	<p><b>Constant Force Post on corrugated metal decking</b></p> <p><b>Fixing Method:</b> 16 stitching screws/bulb tite rivets</p>	<p><b>Constant Force Post on secret-fix roofing</b></p> <p><b>Fixing Method:</b> 20 bulb tite water seal rivets</p>	<p><b>Constant Force Post on flat roofing</b></p> <p><b>Fixing Method:</b> 4 toggle bolts</p>
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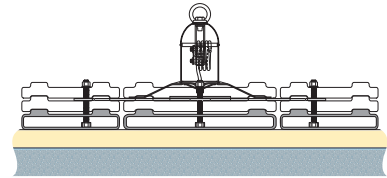
**Latchways Horizontal Lifelines (HLL)**



**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)**



**Multi-Span System Components—all distances and those greater than 200 ft (61 m)**



**Constant Force Energy Absorber**

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 lbs (18 kN).



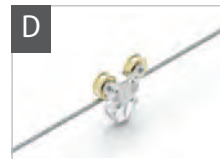
**Overhead System Mobile Anchorage**

Allows an SRL to be connected to the overhead system.



**Line Tensioning Device**

Allows the system to be correctly tensioned for use. The indicator disc will spin freely when the correct tension is reached at 1124 lbs (5 kN).



**Mobile Anchorage**

Allows an SRL to be connected to the overhead system. Anchorage can travel over intermediate brackets without disconnection.



**Intermediate Brackets**

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 stop 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**. See page 133 for more information.

### 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

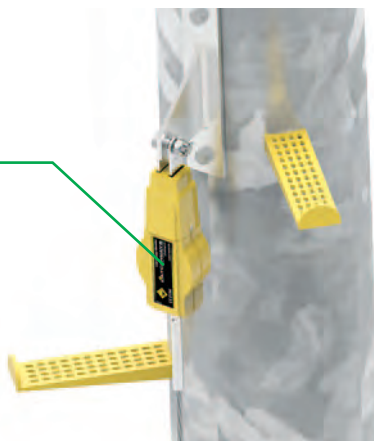
The bottom anchor is a bracket that provides a swage-free system termination and an integral tensioning device. At the correct cable pre-tension, the unit's indicator disc will spin freely. Captive security bolts prevent unauthorized system adjustment.

## Latchways MonoStep System for Telecom Masts

MSA always searches for ways to satisfy our customers' fall protection needs. One great example of this is our MonoStep removable step system, developed in response to telecom companies' need for unobtrusive, tamper-proof climbing systems for their monopole structures. The Latchways MonoStep is an ideal system for use on the first 9 to 13 ft (3 to 4 m) of a pole and designed to work in conjunction with the Latchways TowerLatch device.

### Top anchor

This bracket has a built-in safety factor of greater than 2 times the potential load generated when a fall occurs. The system energy absorber is attached at this point.



### Constant Force energy absorber

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.



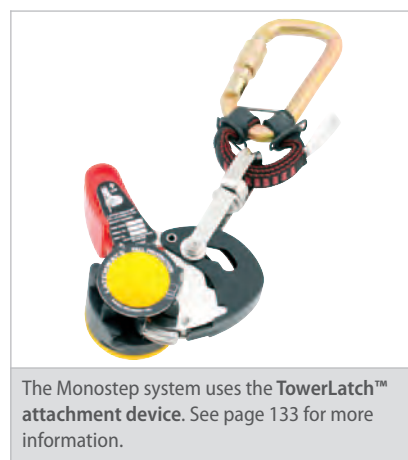
### MonoStep

You can easily install and remove the smartly designed MonoStep: simply click the step over studs mounted on the monopole.



### Bottom anchors

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. Unauthorized system adjustment is prevented through the use of captive security bolts.



The Monostep system uses the TowerLatch™ attachment device. See page 133 for more information.

## TowerLatch™ Engineered Cable Lifelines

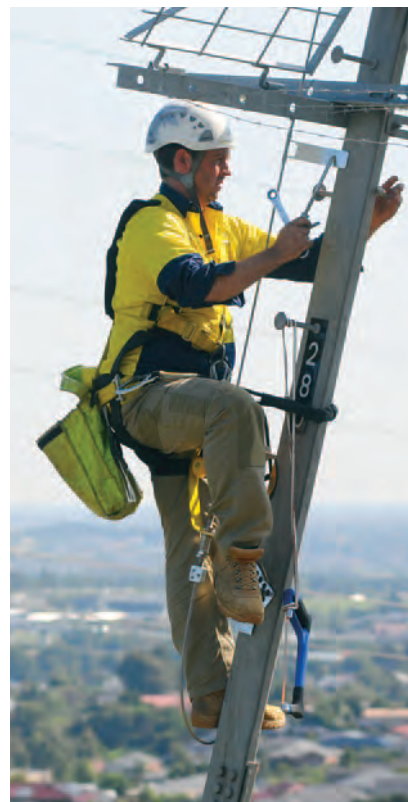
There are two types of systems for overhead line towers: StepBolt and L-Bolt.

### 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 strap 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.



#### 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.



TowerLatch systems for overhead towers use the TowerLatch or TowerLatch SP attachment devices. See page 133 for more information.

## 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



#### Entry and exit terminals

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.



#### Cable

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.



#### Intermediate cable guides

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.



#### Mid-entry terminal

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. See page 133 for more information.



## 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.**  
See page 133 for more information.



## 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
<ul style="list-style-type: none"> <li>• While the Transfastener requires a specific entry point, the Removable Transfastener can attach or detach at any safe point</li> </ul>	<ul style="list-style-type: none"> <li>• Anti-inversion mechanism prevents device from connecting to the cable upside-down</li> <li>• Connects to user at chest point</li> <li>• Able to attach or detach at any safe point of the system</li> <li>• In the event of a fall, the unit locks onto the cable and arrests the fall</li> </ul>	<ul style="list-style-type: none"> <li>• Includes integral webbing strop to provide fast post-fall rescue</li> </ul>	<ul style="list-style-type: none"> <li>• Includes an integral energy absorber ("shock pack") for use where a Constant Force absorber is not present in the vertical lifeline system</li> </ul>



### 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°.

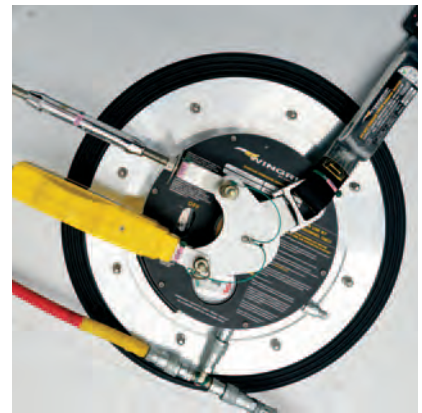


## Latchways WinGrip® Vacuum Anchor

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

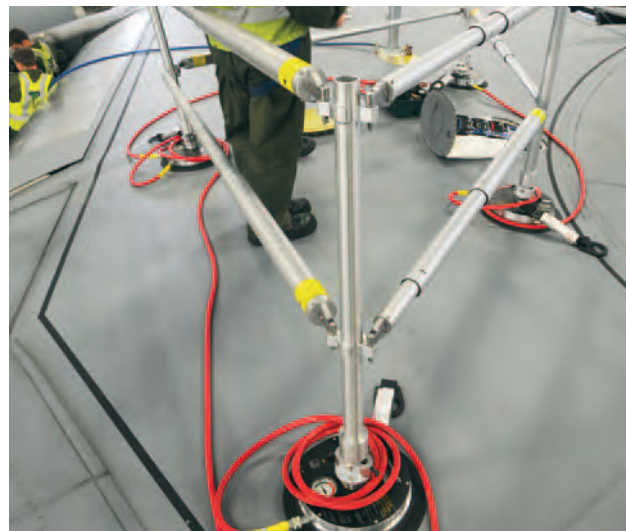
- Lightweight and portable anchors weigh less than 13 lbs (5.9 kg).
- Suitable for wet or dry surfaces, inside hangars, or on the apron
- Intrinsically safe, even with fuel tanks open—runs on compressed air or nitrogen; no electrical requirements
- Approved and used by all major aircraft manufacturers
- Easy to install and simple hands-free operation
- Independently tested to meet all relevant international standards
- Absence 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

## Latchways WinGrip Vacuum Anchor



### 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.



### 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.

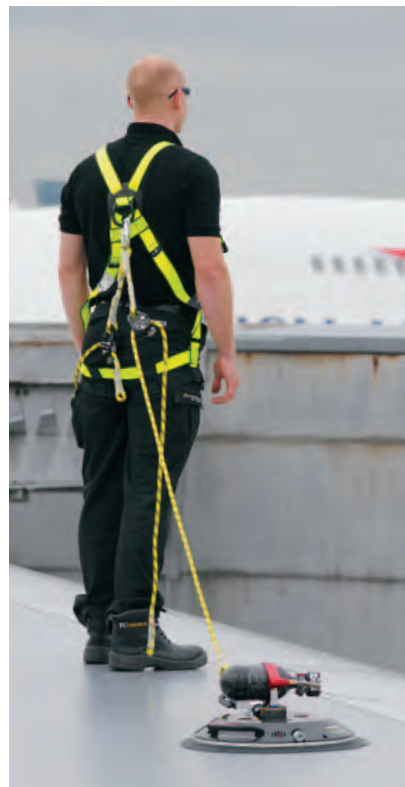
#### System benefits

- 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.



## Latchways VersiRail® Guardrail Systems

Looks can be deceiving. Even in the simplest environments, at-height workers are still subject to falls—after all, just because the risk is minimal doesn't mean the risk is eliminated. This is where MSA's passive fall protection systems come in.

It's called "passive" protection, because once properly installed, it doesn't require any action to be taken by the worker. Guardrails and netting are perfect examples of just such protection— helping to minimize risk by providing a barrier to the hazard while protecting more than one worker at a time.

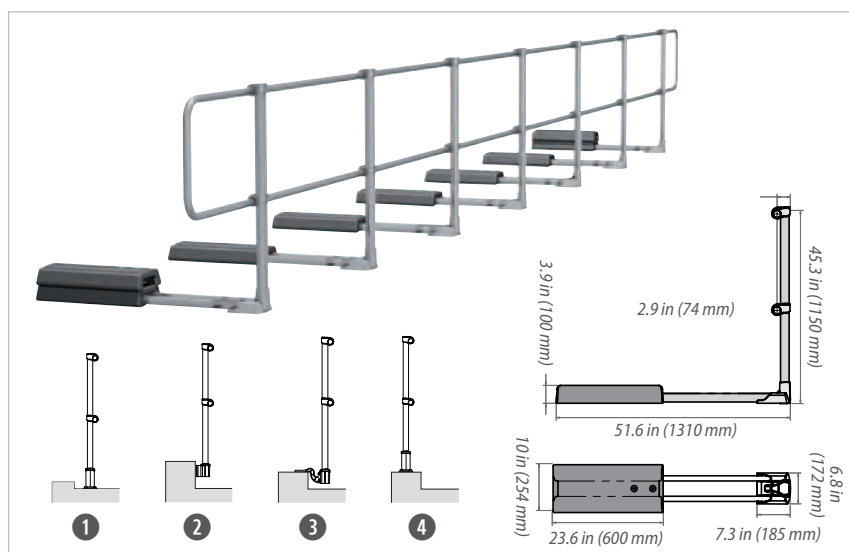
Other scenarios where passive fall protection comes into play include areas where workers have frequent and regular access to locations, environments where tasks may take longer, and situations where workers aren't required to participate in personal protection equipment training.

No matter the passive scenario, it all adds up to one thing: the active need to protect every individual from fall hazards.

### On Guard for Fall Hazards

For flat surfaces up to a 10° slope, the MSA range of Latchways VersiRail guardrail systems offer collective protection designed to safeguard against falls. It's available in two different forms: as a freestanding system that requires no penetration, or as a fixed system that can be permanently attached to parapet walls or roof decks.

Made of durable aluminum and corrosion-resistant construction, these lightweight, fully weatherproof systems are quick and easy to install—not to mention versatile enough to be designed for any roof with up to 10 degrees pitch. They're also built with your aesthetic eye in mind. VersiRail systems are available in straight, curved or inclined styles, and they can be delivered with a polished finish or powder coated in a large array of colors.



### Straight Upright

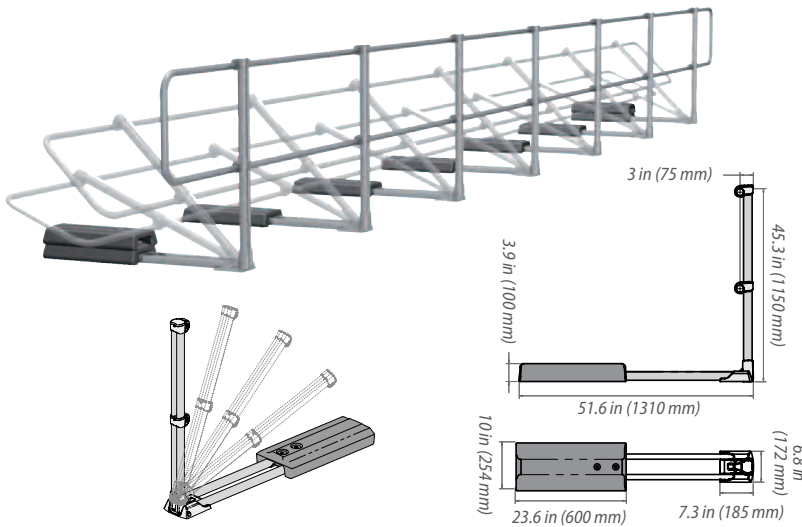
#### Classic design for a perfect fit

With its simple design built for seamless integration into your building's clean lines and contours, the straight upright system is well suited for protecting access points and demarcating walkways.

#### Straight upright system with:

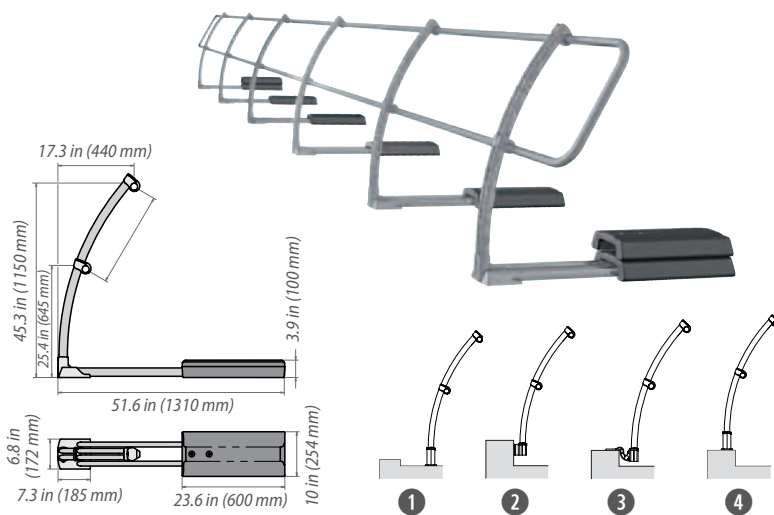
- 1 Slab mounting plate
- 2 Wall mounting plate
- 3 Z-type mounting plate
- 4 Parapet mounting plate

Latchways VersiRail Guardrail Systems



**Freestanding Folding**

**Safety meets architectural aesthetics**  
When collective protection is not needed, VersiRail's folding uprights can lie flat, concealing the system from ground-level views. Available in straight, curved or inclined styles.

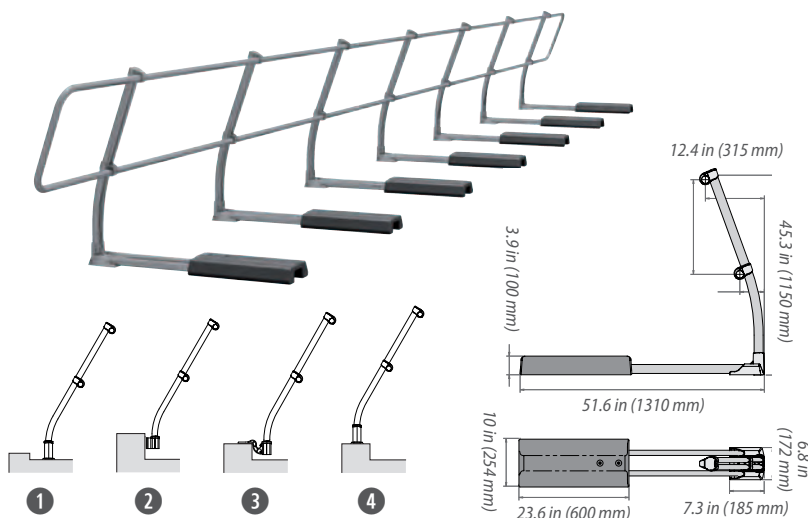


**Curved Upright**

**Greater safety around the bend**  
With a sleek and handsome arc, the curved upright system adds to the design of your building while providing a greater level of safety by keeping workers farther from the roof edge.

Curved upright system with:

- 1 Slab mounting plate
- 2 Wall mounting plate
- 3 Z-type mounting plate
- 4 Parapet mounting plate



**Inclined Upright**

**Artful integration upon sight**  
With its 20° incline, this aesthetically designed VersiRail variation better integrates into the building to be less visible from ground level.






Inclined upright system with:

- 1 Slab mounting plate
- 2 Wall mounting plate
- 3 Z-type mounting plate
- 4 Parapet mounting plate

## Latchways VersiRail Guardrail Systems





### Bringing flexibility and customization together

With so many modular easy-fix components to choose from, VersiRail can create a wide range of configurations just right for you.

				
<p><b>Corner sections</b></p>	<p><b>Connecting elements</b></p>	<p><b>Closure bends</b></p>	<p><b>Access gate</b></p>	<p><b>Toeboard</b></p>
<p>When a change in system direction is required, standard 90° corners are available, while corner sections between 45° and 175° can be made to order.</p>	<p>T-Junctions, 45–45 corner sections and junction parts are available to accommodate all system layouts.</p>	<p>In instances where a VersiRail system needs to terminate and can't be attached directly to a structural element, closure bends can be incorporated into the length of a system to designate a safe entry and exit.</p>	<p>In areas where a VersiRail system prevents worker access to fall hazards, yet maintenance access in these same areas may still be needed, the access gate can be essential by providing trained personnel-controlled entry. Suitable for rooflights or trap doors.</p>	<p>On rooftops or surfaces without a parapet at the fall edge, a toeboard can be affixed to the base of the VersiRail guardrail.</p>

### Fixing options

MSA offers brackets for fixing on or to parapet walls, using either M10 or M12 bolts.

			
<p><b>Slab mounting plate</b></p>	<p><b>Wall mounting plate</b></p>	<p><b>Z-type mounting plate</b></p>	<p><b>Parapet mounting plate</b></p>

Please note that these fixings should be chemically sealed where possible and that it's critical to check the suitability of the material on which the fixed VersiRail system is to be installed.

## Latchways WalkSafe® Walkway Systems

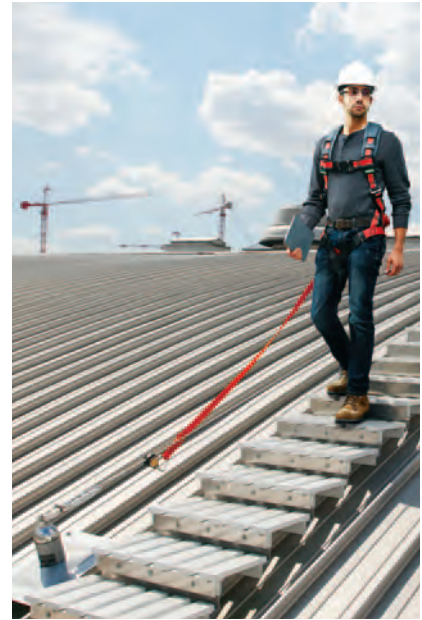
Often it's necessary (and good business) to install a fall protection system that offers maximum safety even in the face of minimal danger. WalkSafe walkway systems attach to rooftops to create a level, anti-slip surface that keeps workers protected against potential fall hazards. In addition to offering ease of access up sloped or pitched roofs, WalkSafe's leveled walkways help provide workers a defined route that guides them away from hazards.

Manufactured from recycled PVCu, WalkSafe systems are designed to distribute the load evenly on the roof, reducing wear and tear on the roofing system itself. This is particularly useful in instances where regular access is required, for example in plant inspection, rooftop cleaning or air quality monitoring.

Versatile in its applications for easy customization, WalkSafe systems work on all major roof systems—from standing-seam to corrugated metal to single-ply membrane.

### Key Advantages

- Lifespan in excess of 25 years
- Manufactured from recycled PVCu and can therefore be recycled again
- Lightweight construction
- Designed for use on all major roofing systems
- Manufactured in the UK
- Class 1Y against B476 fire resistance test
- Tested to ACR[M]001:2014 for fragility and achieved an "A" classification
- Tropical alternative available for high-heat and high-UV conditions
- Coefficient of friction:
  - Dry 0.57
  - Wet 0.51



### WalkSafe Walkway Layout

What makes a Latchways WalkSafe system the ideal choice for you is its stunning flexibility and customization—you can truly build it as you see fit. Whatever your structure, needs and preferences, MSA is the optimal fall protection partner, allowing you to personalize your safety system with different fixing methods, configurations and more.

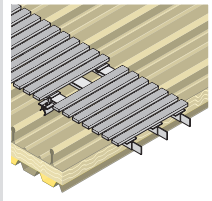
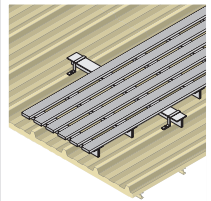
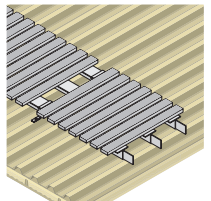
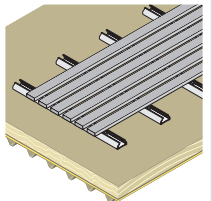
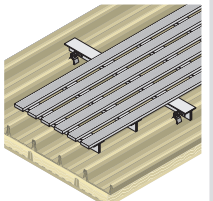
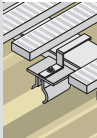
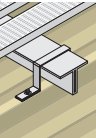
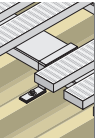
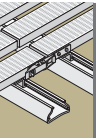
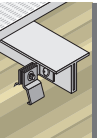
The orientation of the WalkSafe planks within a system is described as either shortways (running across the roofing profile) or longways (running with the roofing profile).

The system can be configured in four ways to cover corners and change of direction: as a T-section, longways to shortways or vice versa; or as a corner section either to shortways "end" or longways "side."

Simply put, while the product is all Latchways, the system configuration is all you. Contact a Latchways installation representative to find out more.

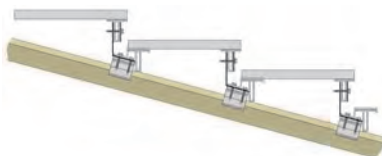
### WalkSafe Walkway Systems Fixing Options

The simplicity of a WalkSafe system stems from its ability to combine simplicity of design with mastery of expertise. Our 9 ft (2.7 m) long by 10" (254 mm) wide panels require only top-fixing to the roof system. In most cases, the fixings are non-penetrative.

Shortways system on standing-seam roofing	Longways system on corrugated metal roofing	Shortways system on built-up-on-site roofing	Longways system on single-ply membrane roofing	Longways system on secret-fix roofing
				
 Fixing method: Standing-seam clamps	 Fixing method: Retaining brackets	 Fixing method: Retaining brackets	 Fixing method: Self-weighted panels are joined with toggle clamp	 Fixing method: Secret-fix clamps

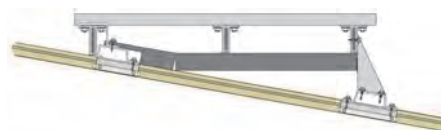
## Latchways WalkSafe Walkway Systems

### WalkSafe Pitched-Roof Systems



#### Step Systems

WalkSafe's design flexibility allows it to be used as leveled walkways, providing safe access to all parts of the roof on slopes up to 15°, or as steps on steeper gradients.



#### Traversing Systems

Where a level walkway is required, it is key that the correct roof angle is identified because the leveling brackets are purpose-built for each job. Traversing WalkSafe systems utilize different components to the stepped systems, therefore careful consideration must be given when detailing areas requiring access.

### WalkSafe Fall-Proof Covers



If installing fall protection systems isn't possible, then installing passive protection such as WalkSafe Fall-Proof Covers or Skylight Covers is the next best solution. Whether on flat or pitched fragile roofs, WalkSafe covers can be used adjacent to WalkSafe Walkway systems and can work apart from—or, ideally, jointly with—other Latchways fall protection solutions. Better still, these easily installed covers eliminate the possibility of user error, since they don't require user training.

### WalkSafe Skylight Covers



Wherever in-plane or raised skylights are installed, WalkSafe Skylight Covers work to keep employees from falling through them. As skylights often vary in shape and size, WalkSafe solutions can be customized to fit your particular needs.

Contact your local MSA representative to help you and your local Latchways Registered Installer design an appropriate system just right for you.

**MSA XTIRPA™ Manhole Guard System**

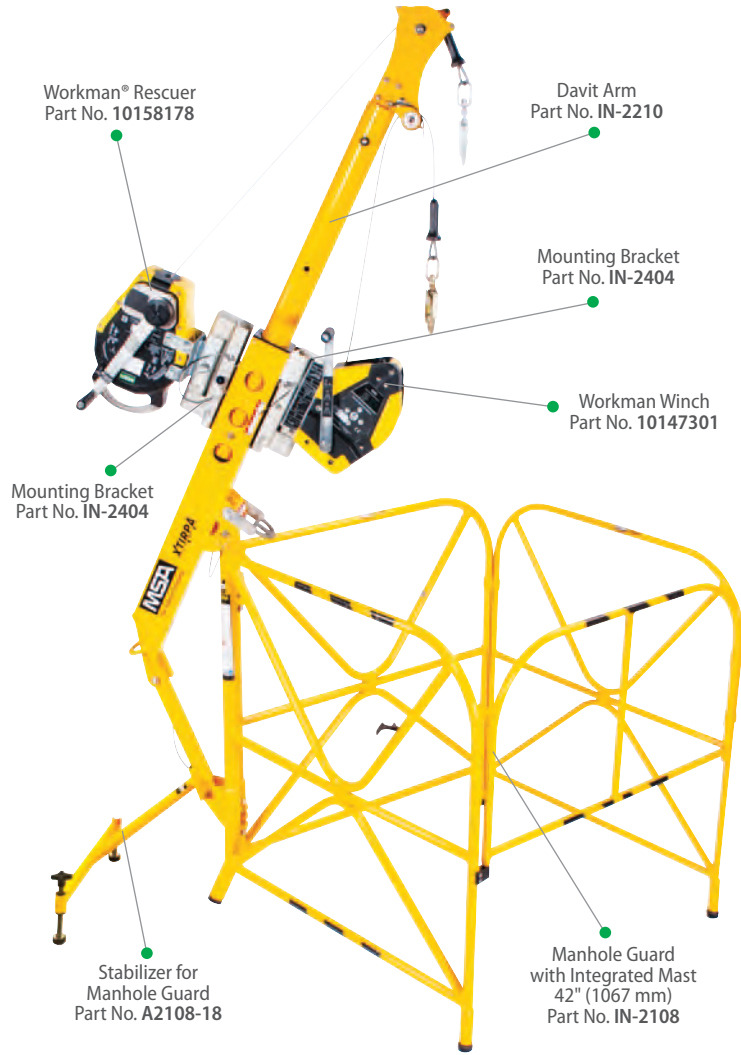
- Used for confined space vertical entry and fall protection when portable base is needed
- Barricades exposed entry points while providing necessary strength needed for fall protection, entry and retrieval applications
- Davit arm and manhole guard with integrated mast interface allows for reduced material surrounding the confined space entry, thus reducing the presence of trip and fall hazards

**Weight Capacity**









400 lbs. (181 kg) as pictured with Workman Rescuer and Workman 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



**System Components**

					
<b>Davit Arm 24" Reach</b>	<b>Manhole Guard Integrated Mast 42"</b>	<b>Large Manhole Guard Integrated Mast 42"</b>	<b>Multifunctional Barricade 4 Side</b>	<b>Multifunctional Barricade 1 Side</b>	<b>Kick Plate for Manhole Guard and Barricade</b>
<b>IN-2210</b>	<b>IN-2108</b>	<b>IN-2324</b>	<b>IN-2101</b>	<b>IN-2101-07</b>	<b>IN-2176</b>
OSHA	OSHA	OSHA	OSHA		OSHA
					
<b>Stabilizer for Manhole Guard 42"</b>	<b>Stabilizer w/ Wheels for Manhole Guard 42"</b>				
<b>IN-2108-18</b>	<b>IN-2108-20</b>				
OSHA	OSHA				

For rescuer, winch, and mounting bracket ordering information, see page 153.

## MSA XTIRPA Adapter Base System—24" Reach

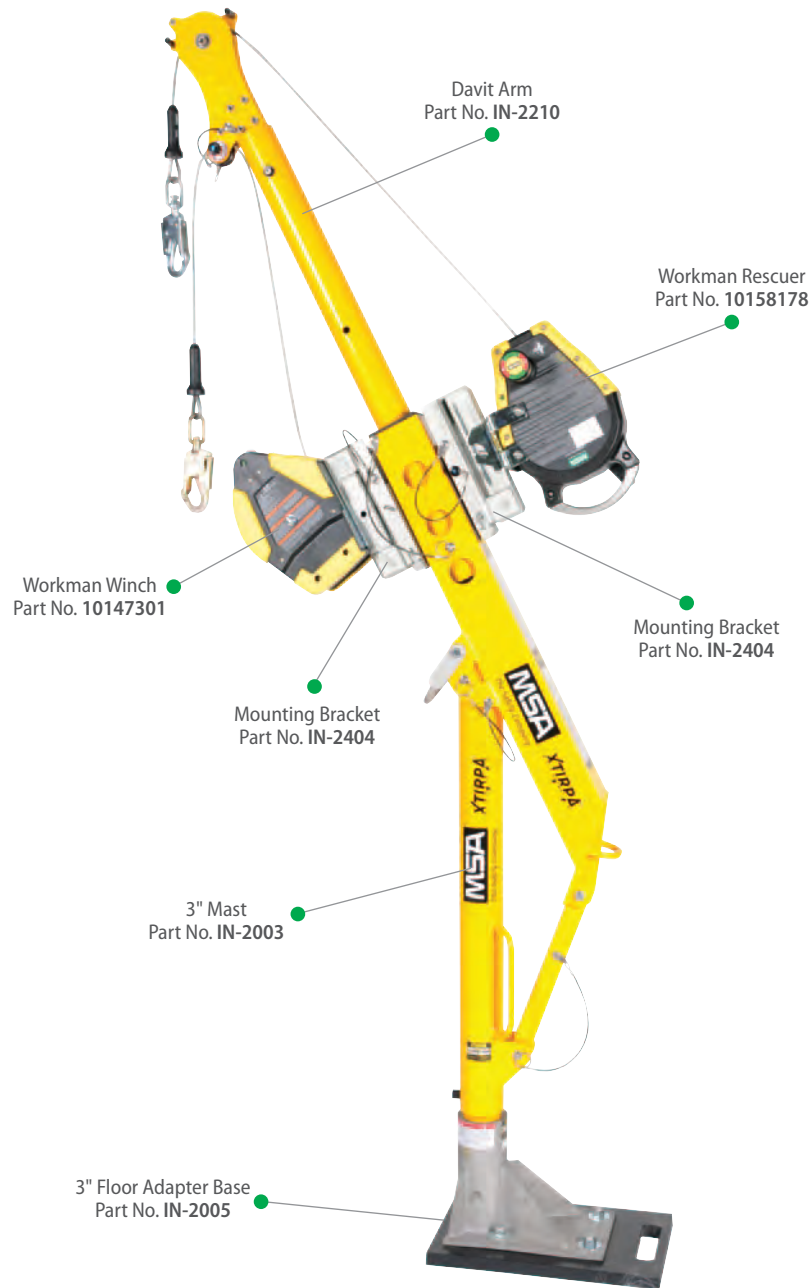
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Many different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

### Weight Capacity

360 lbs. (163 kg) as pictured with Workman 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



























System Components (see following page)



## MSA XTIRPA Adapter Base System—24" Reach

### System Components

				
<b>Davitt Arm 24" Reach</b>	<b>3" Diameter Mast</b>	<b>Mast Extension</b>	<b>3" Floor Adapter Base</b>	<b>3" Flush Floor Adapter Base</b>
IN-2210	IN-2003	IN-2044 15" IN-2109 18" IN-2045 24"	IN-2005 304 stainless steel IN-2106 Zinc-plated IN-2311 316 stainless steel	IN-2006 304 stainless steel IN-2114 Zinc-plated IN-2325 316 stainless steel
OSHA	OSHA	OSHA	OSHA	OSHA
				
<b>3" Fresh Concrete Floor Adapter Base</b>	<b>3" Center Mount Floor Adapter Base</b>	<b>3" Wall Adapter Base</b>	<b>3" Mural Adapter Base w/8" Offset</b>	<b>3" Mural Adapter Base w/14" Offset</b>
IN-2007 304 stainless steel IN-2326 316 stainless steel	IN-2105 304 stainless steel IN-2137 Zinc-plated IN-2329 316 stainless steel	IN-2013 304 stainless steel IN-2107 Zinc-plated IN-2327 316 stainless steel	IN-2124 304 stainless steel	IN-2067 304 stainless steel IN-2312 316 stainless steel
OSHA	OSHA	OSHA	OSHA	OSHA
				
<b>3" Top Wall Adapter 90°</b>	<b>3" Exterior Corner Wall Adapter Base</b>	<b>3" Interior Corner Wall Adapter Base</b>	<b>Mural Wall Angular Adapter</b>	<b>3" Sleeve Adapter Base</b>
IN-2117 304 stainless steel	IN-2131 304 stainless steel	IN-2133 304 stainless steel	IN-2314	IN-2097 304 stainless steel IN-2328 316 stainless steel
OSHA	OSHA	OSHA	OSHA	OSHA
				
<b>3" Barrel Adapter Base</b>	<b>3" Barrel Adapter Base 2" to 5"</b>	<b>3" H-Beam Adapter Base</b>	<b>Fall Arrest and Rescue Link Adapter</b>	<b>Wire Rope Link</b>
IN-2021 304 stainless steel IN-2129 Zinc-plated	IN-2315 Zinc-plated	IN-2085 304 stainless steel	IN-2271	IN-2400
OSHA	OSHA	OSHA	OSHA	OSHA
				
<b>Warning Post</b>	<b>3" Adapter Cap</b>	<b>3" Adapter Cap with SST Wire</b>	<b>Reinforcement Plates</b>	
IN-2161	IN-2072	IN-2073	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	OSHA	OSHA	OSHA	
<b>Threaded Rod Kit 3/4-10 x 12"</b>	<b>Threaded Rod Kit 3/4-10 x 12"</b>			
IN-2174	IN-2212			
OSHA	OSHA			

## MSA XTIRPA Adapter Base System—30"– 48" Reach

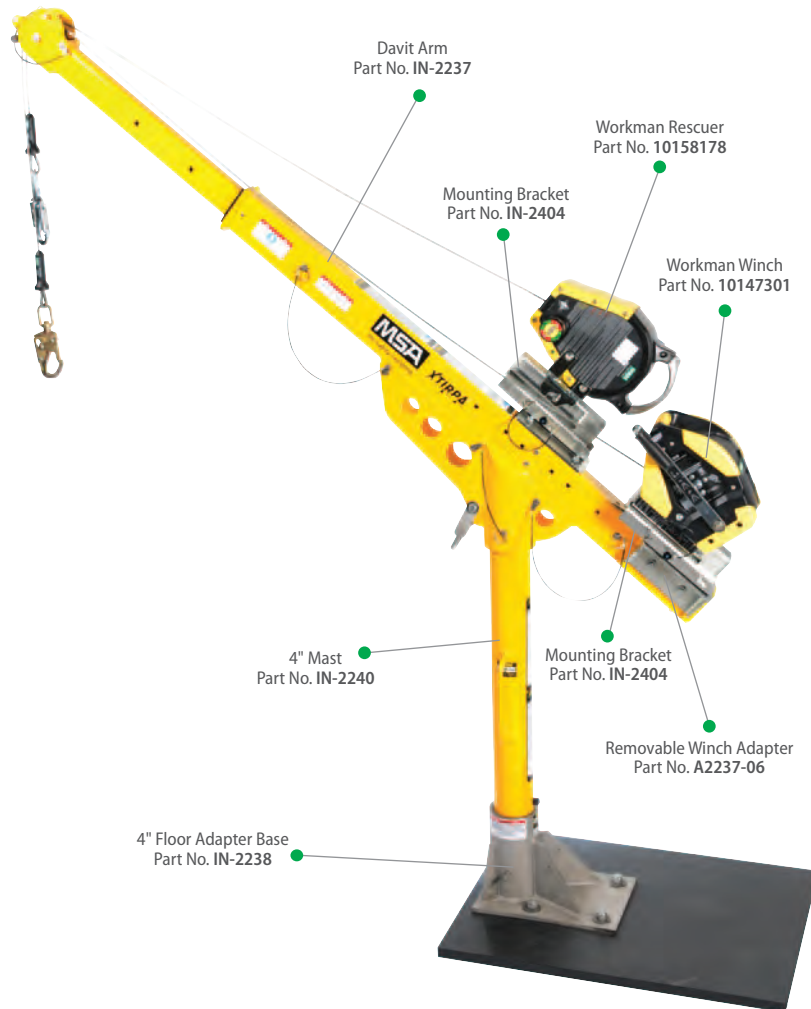
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

### Weight Capacity

360 lbs. (163 kg) as pictured with Workman 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



### System Components

Davit Arm 30" to 48" Reach	Removable Winch Adapter	4" Mast for Davit Arm	4" Floor Adapter Base	4" Center Mount Floor Adapter Base	
IN-2237	A2237-06	IN-2240 42" Height IN-2313 60" Height	IN-2238 304 stainless steel IN-2302 Zinc-plated	IN-2254 304 stainless steel IN-2304 Zinc-plated	
OSHA	OSHA	OSHA	OSHA	OSHA	
4" Flush Floor Adapter Base	4" Mural Adapter Base	4" Sleeve Adapter Base	4" Adapter Cap	4" Adapter Cap with SST Wire	4" to 3" Cylinder Reducer with Cable
IN-2266 304 stainless steel	IN-2253 304 stainless steel IN-2303 Zinc-plated	IN-2255 304 stainless steel	IN-2272	IN-2273	A2238-03
OSHA	OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch, and mounting bracket ordering information, see page 153.

## MSA XTIRPA Hitch Mount System

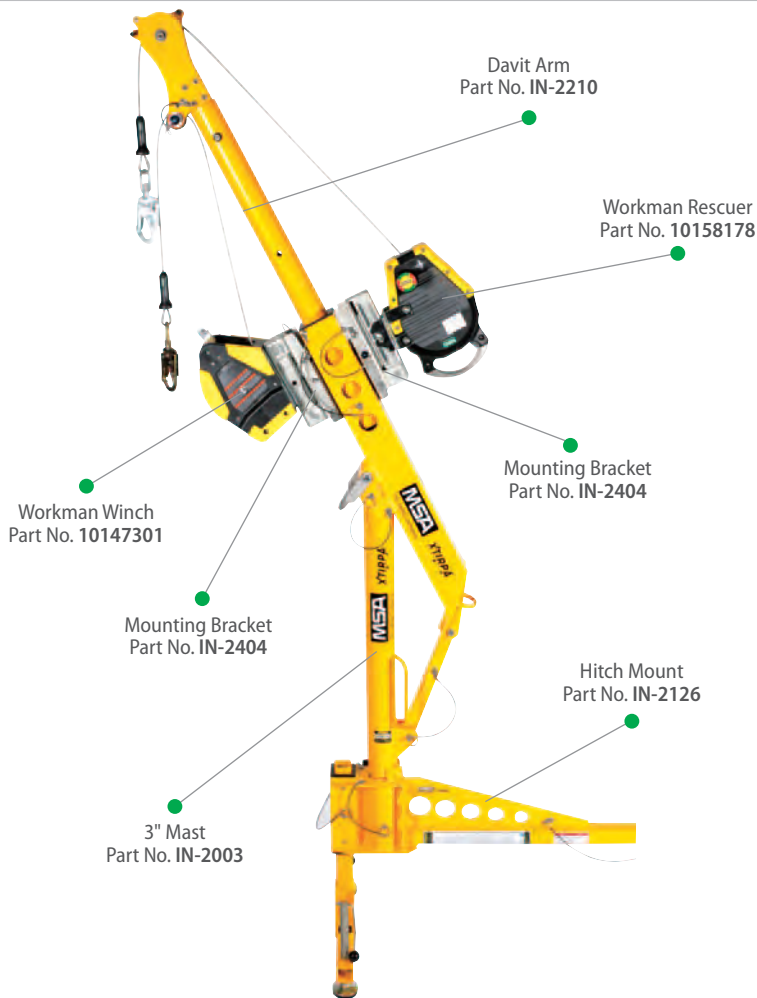
- Used for confined space vertical entry and fall protection when portable base is needed
- Hitch mount can be customized to accommodate variety of confined space applications
- Commonly used with rescue vehicles for confined space rescue

### Weight Capacity










360 lbs. (163 kg) as pictured with Workman 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



### 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 153.

## MSA XTIRPA Pole Hoist System—Horizontal and Vertical Entry

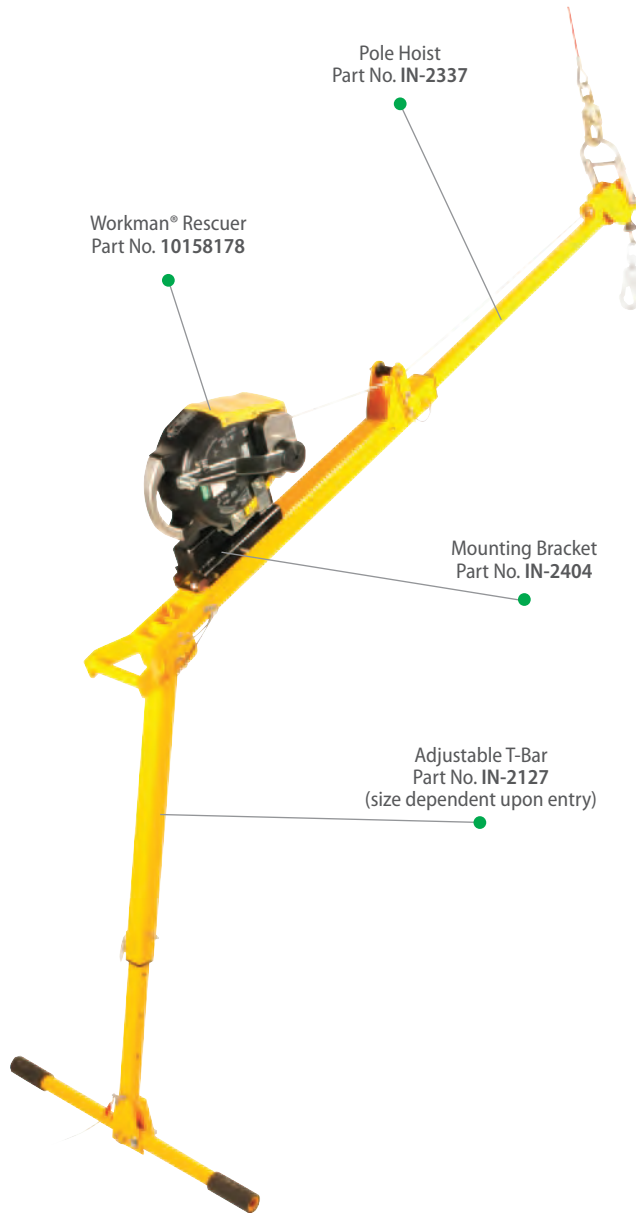
- Used for confined space vertical/horizontal entry and fall protection when portable base is needed
- When attached to anchor point, Pole Hoist provides retrieval and fall protection when limited overhead clearance is present
- Can also be configured for horizontal entry applications such as lifting, lowering and fall protection

### Weight Capacity






360 lbs. (163 kg) as pictured with Workman 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



### System Components

				
<b>Pole Hoist</b>	<b>Adjustable T-Bar</b>	<b>Flange Adapter for Lateral Entry</b>	<b>Universal Ring Adapter</b>	<b>Jib Adapter for Lateral Entry</b>
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 153.

## MSA XTIRPA Manhole Collar System

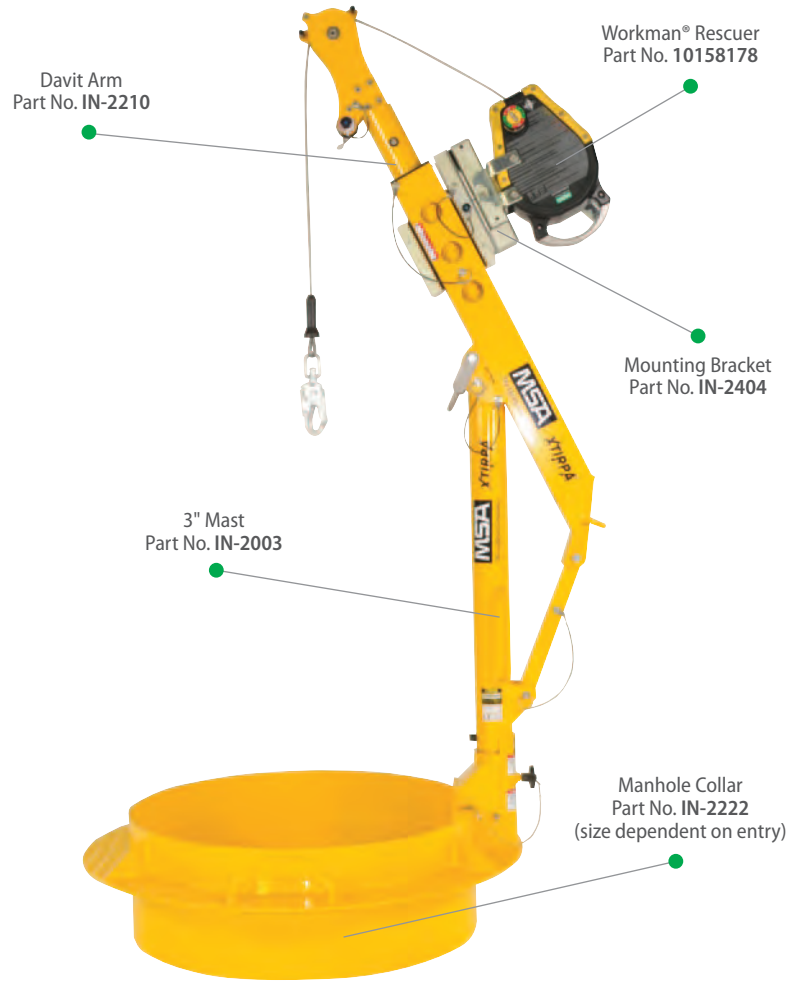
- Used for confined space vertical entry and fall protection when portable base is needed
- Provides adapter base by fitting within manhole opening
- Designed for frequent setup of confined space equipment over similarly-sized openings

### Weight Capacity









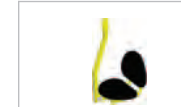
360 lbs. (163 kg) as pictured with Workman Rescuer

### 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



### System Components

					
<b>Davit Arm 24" Reach</b>	<b>3" Diameter Mast</b>	<b>Mast Extension</b>	<b>Mast/Davit Arm</b>	<b>Manhole Retaining Ring</b>	<b>Manhole Collar (sizes are for diameter)</b>
IN-2210	IN-2003	IN-2044 15" IN-2109 18" IN-2045 24"	IN-2295 18" reach IN-2363 9" reach	IN-2010	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	OSHA	OSHA	OSHA	OSHA	OSHA
					
<b>Cone Shaped Safety Ring</b>	<b>Manhole Collar Seat</b>	<b>Hand Rail Attachment for Mast</b>	<b>Ladder Adapter</b>	<b>Positioning Seat</b>	
IN-2009	A2217-10	IN-2282	A2217-05	IN-2244	
OSHA	OSHA	OSHA	OSHA	OSHA	

For rescuer, winch, and mounting bracket ordering information, see page 153.

## MSA XTIRPA Adjustable Wall Adapter System

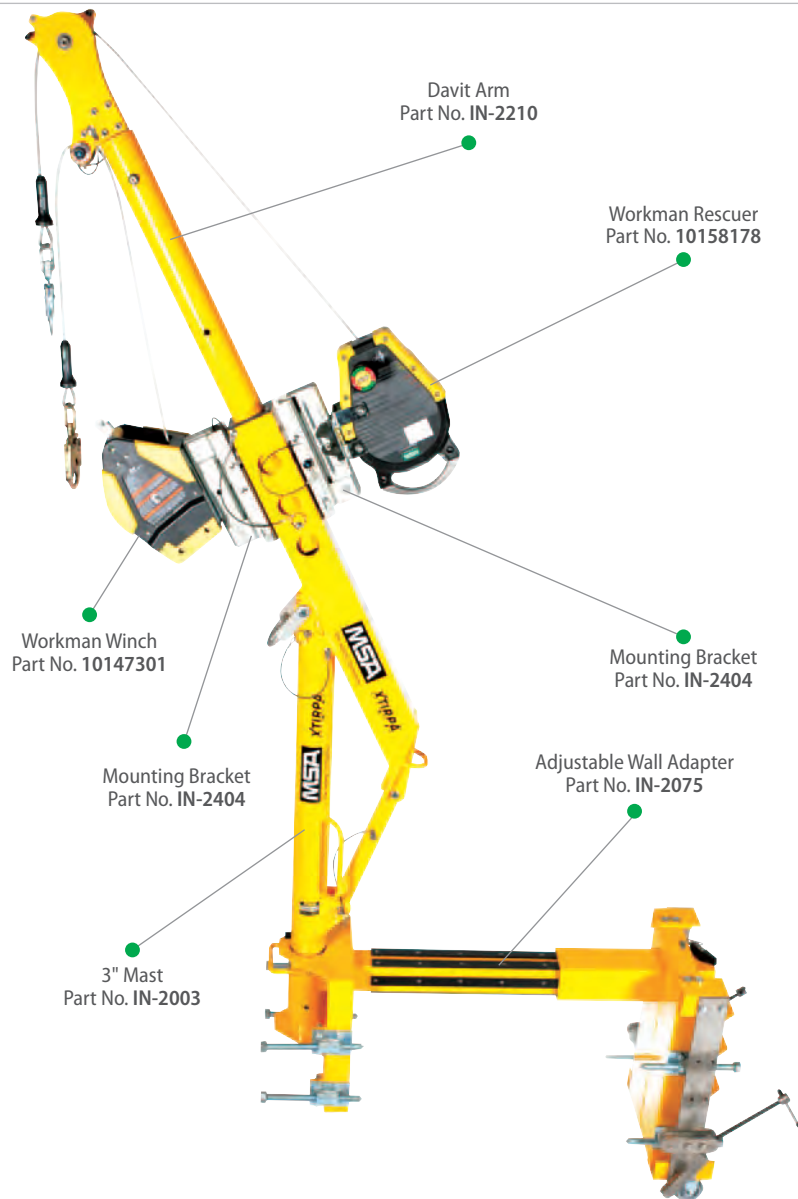
- Used for confined space vertical entry and fall protection when portable base is needed
- Range from 6" to 45" to accommodate wide range of confined space applications
- Designed for frequent setup of confined space equipment

### Weight Capacity




360 lbs. (163 kg) as pictured with Workman 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



### System Components

				
<b>Davit Arm 24" Reach</b>	<b>3" Diameter Mast</b>	<b>Mast Extension</b>	<b>Mast/Davit Arm</b>	<b>Mast/Davit Arm</b>
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 153.

## MSA XTIRPA Counter Weight System

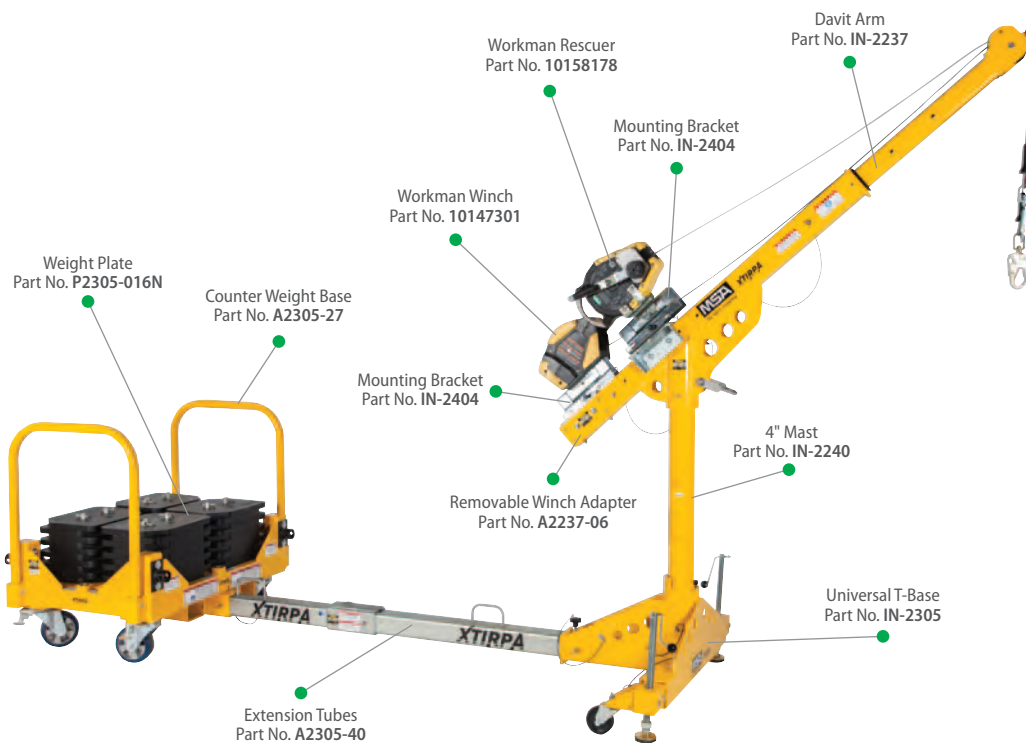
- Used for confined space vertical entry and fall protection when portable base is needed
- System used with Counter Weight Base for counterbalance
- Ideal for movement and access between various confined space entry points in the same area

### Weight Capacity











360 lbs. (163 kg) as pictured with Workman 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



### 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, 50lb
IN-2237	A2237-06	IN-2240 42" Height IN-2313 60" Height	IN-2305	A2305-27	P2305-016N
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 153.

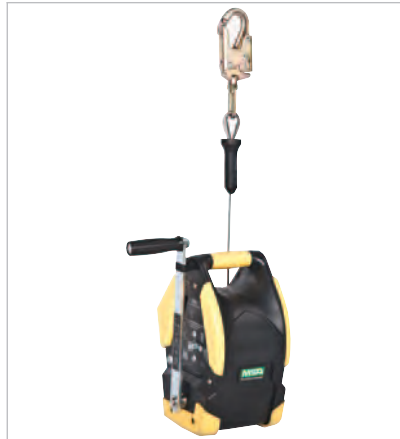
## Accessories for XTIRPA Confined Space Products



Workman® Rescuer

10158178

ANSI Z359.14, OSHA, CSA Z259.2.2



Workman Winch

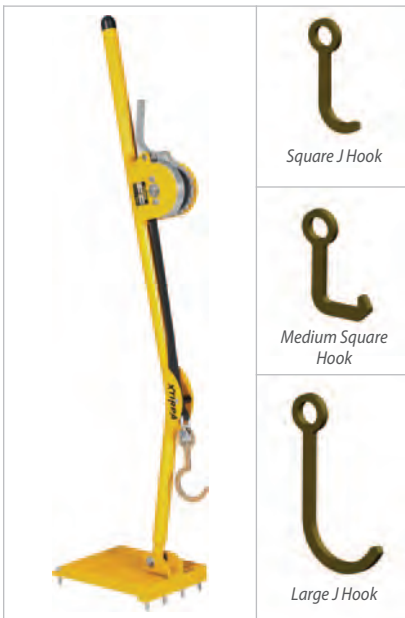
10147301

OSHA



Mounting Bracket  
(Workman)

IN-2404



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 Equipment: Retrieval

### Tripod System

		
<b>PRODUCT</b>	Workman Confined Space Entry Kit	Workman Tripod
<b>PART NO.</b>	10163033	10102002
<b>FEATURES</b>	<p><i>Includes:</i></p> <ul style="list-style-type: none"> <li>• Workman Tripod</li> <li>• Workman Rescuer &amp; carry bag</li> <li>• Workman Winch &amp; carry bag</li> <li>• Carabiner</li> <li>• Pulley</li> </ul>	<ul style="list-style-type: none"> <li>• Can be set up/dismantled without the use of tools</li> <li>• Automatic hinge lock legs with incremental adjustment</li> <li>• Skid-resistant feet</li> </ul>

### Workman Confined Space Entry Kits

PART NO.	Stainless Steel Kit Components					Standards		
	8' Tripod	50' Workman Rescuer	65' Workman 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 Equipment: Retrieval/Lifting/Lowering Devices



### Workman 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 NUMBER

<b>10158178</b>	Workman Rescuer, stainless steel cable, 50 ft. (16m) – ANSI Z359.14
<b>10158180</b>	Workman Rescuer, stainless steel cable, 50 ft. (16m) – CSA Z259.2.2
<b>10159755</b>	Workman Rescuer, rope, 50 ft. (16m) – ANSI Z359.14



### Workman Winch

- Rugged, versatile and economical mechanism for lifting, lowering and positioning of personnel and materials within confined space applications
- Maximum work load of 400 lbs 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 NUMBER

<b>10153757</b>	Workman Winch, galvanized cable, <b>65-ft (20m)</b>
<b>10147301</b>	Workman Winch, stainless steel cable, <b>65-ft (20m)</b>
<b>10154686</b>	Workman Winch, galvanized cable, <b>95-ft (29m)</b>
<b>10154684</b>	Workman Winch, stainless steel cable, <b>95-ft (29m)</b>
<b>10148277</b>	<b>Synthetic rope</b> for Workman 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 NUMBER

<b>SSH3505017</b>	Bosun Chair, 5" x 16-1/2" padded seat, black nylon straps, 2 carabiners
-------------------	---



### Spreader Bars

#### PART NUMBER

<b>507130</b>	Spreader bar, 14"
<b>507131</b>	Spreader bar, 22"

## 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:

- 1 Superior comfort:** The exclusive racing style buckle allows for a close, comfortable fitting harness—eliminating the need for bulky chest straps or cumbersome buckles.
- 2 Flexibility:** The racing style buckle creates an athletic cut, contouring the harness to the body for improved upper torso movement on the job.
- 3 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)	Weight Range (lb. (kg))													
6'-6" (2.0)	[Weight Range]													
6'-4" (1.9)	[Weight Range]													
6'-2" (1.9)	[Weight Range]													
6'-0" (1.8)	[Weight Range]													
5'-10" (1.8)	[Weight Range]													
5'-8" (1.7)	[Weight Range]													
5'-6" (1.7)	[Weight Range]													
5'-4" (1.6)	[Weight Range]													
5'-2" (1.6)	[Weight Range]													
5'-0" (1.5)	[Weight Range]													
<b>lb. (kg)</b>	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 chafing.
- 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!

# Fall **Protection**: Personal Protective Equipment

## V-FLEX Standard Full-Body Harness Ordering Information

Part Number	Size				D-Ring Configuration			Leg Straps		Standards		
	XSM	STD	XLG	SXL	Back	Chest	Hip	Tongue Buckle	Quick-Connect	ANSI Z359.11	CSA Z259.5	OSHA
10195455	■				■				■	■	■	■
10196069		■			■				■	■	■	■
10196070			■		■				■	■	■	■
10196081				■	■				■	■	■	■
10196082	■				■			■		■	■	■
10196083		■			■			■		■	■	■
10196084			■		■			■		■	■	■
10196085				■	■			■		■	■	■

## V-FLEX Standard Full-Body Harness with Front D-Ring Ordering Information

Part Number	Size				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				■	■	■		■		■	■	■

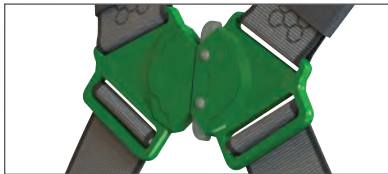
## V-FLEX Construction Full-Body Harness Ordering Information

Part Number	Size				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.

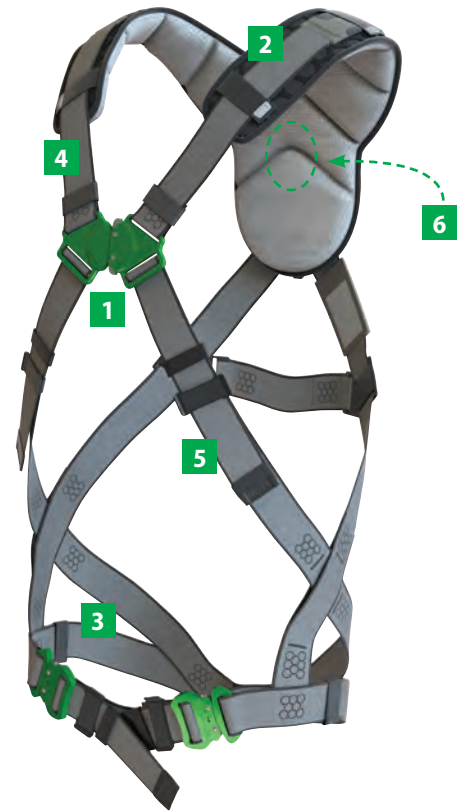
### Adjustability

**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 its 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

# Fall Protection: Personal Protective Equipment

## V-FIT Construction Full-Body Harness Ordering Information

Part Number	Size (See chart on page 2.)				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			■			■	■			■	■	■	■
<b>DERRICK HARNESS</b>													
10195204	■				■		■		■		■	■	■
10195205		■			■		■		■		■	■	■
10195206			■		■		■		■		■	■	■
10195207				■	■		■		■		■	■	■

## V-FIT Standard Full-Body Harness with Front D-Ring Ordering Information

Part Number	Size (See chart on page 2.)				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 Standard Full-Body Harness Ordering Information

Part Number	Size (See chart on page 2.)				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-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+ Harness Ordering Information

Part Number	D-Ring Configuration				Size (See chart on following page.)				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+ Construction Harness Ordering Information

Part Number	D-Ring Configuration		Size (See chart below.)				Leg Buckle Type		Standards ANSI Z359.11/ CSA Z259.10/ OSHA
	Back, Hips	Back, Chest, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Quick-Connect	
10206160	■		■				■		■
10206161	■			■			■		■
10206162	■				■		■		■
10206163	■					■	■		■
10206164		■	■				■		■
10206165		■		■			■		■
10206166		■			■		■		■
10206167		■				■	■		■
10206172	■		■					■	■
10206173	■			■				■	■
10206174	■				■			■	■
10206175	■					■		■	■
10206176		■	■					■	■
10206177		■		■				■	■
10206178		■			■			■	■
10206179		■				■		■	■

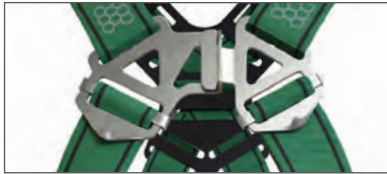


V-FORM+ Construction Harness with tongue-buckle leg straps

## 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.



RaceFLEX 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

# Fall **Protection**: Personal Protective Equipment

## V-FORM Harness Ordering Information

Part Number	D-Ring Configuration					Size (See chart on page 2.)				Leg Buckle Type		Padding	Standards
	Back	Back, Hips	Back, Chest*	Back, Chest*, Hips	Back, Shoulders	XSM	STD	XLG	SXL	Tongue Buckle	Qwik-Fit	None	ANSI Z359.11/ CSA Z259.10/ OSHA
10197195	■					■					■	■	■
10197196	■						■				■	■	■
10197197	■							■			■	■	■
10197198	■								■		■	■	■
10197199		■				■					■	■	■
10197200		■					■				■	■	■
10197231		■						■			■	■	■
10197232		■							■		■	■	■
10196702	■					■				■		■	■
10196642	■						■			■		■	■
10197160	■							■		■		■	■
10197201	■								■	■		■	■
10197214		■				■				■		■	■
10197215		■					■			■		■	■
10197216		■						■		■		■	■
10197217		■							■	■		■	■
10197202			■			■				■		■	■
10197203			■				■			■		■	■
10197204			■					■		■		■	■
10197205			■						■	■		■	■
10197206				■		■				■		■	■
10197207				■			■			■		■	■
10197208				■				■		■		■	■
10197209				■					■	■		■	■
10197218					■	■				■		■	■
10197219					■		■			■		■	■
10197220					■			■		■		■	■
10197221					■				■	■		■	■

\*V-FORM harnesses in chest D-ring configurations come with standard quick-fit chest connection, and not RaceFORM buckle. See image on previous page of front D-ring variant.

## V-FORM Construction Harness Ordering Information

Part Number	D-Ring Configuration	Size (See chart on page 2.)				Leg Buckle Type	Padding	Standards
	Back, Hips	XSM	STD	XLG	SXL	Tongue Buckle	Shoulder	ANSI Z359.11/ CSA Z259.10/OSHA
10197363	■	■				■	■	■
10197364	■		■			■	■	■
10197365	■			■		■	■	■
10197366	■				■	■	■	■

## V-FORM Harness with Quick-Connect Racing-Style Buckle Ordering Information

Part Number	D-Ring Configuration						Size (See chart on page 2.)				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 2.)				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 Harness with Stainless Steel Hardware Ordering Information




Part Number	D-Ring Configuration	Size (See chart below.)				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  
(P/N 10197234)

## 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		
<ul style="list-style-type: none"> <li>• Food processing</li> <li>• Oil, gas, petrochemical</li> <li>• Water treatment</li> <li>• Painting</li> <li>• Cleaning &amp; maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• High-heat environments</li> <li>• Welding</li> </ul>	<ul style="list-style-type: none"> <li>• All applications that require extended periods of time in a fall protection harness</li> </ul>

	Gravity Urethane-Coated Full-Body Harness											
	Features											
	<ul style="list-style-type: none"> <li>• Urethane-coated webbing provides protection against heavy oil &amp; grease</li> <li>• Rated to 400-lb./180kg capacity</li> <li>• Extremely easy to clean</li> </ul>											
	PART NO.	Style	Hardware		D-Ring Configuration		Leg Buckle Type	Size			Standards	
		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 Family of Full-Body Harnesses

PART NO.	D-Ring Configuration			Size				Leg Buckle Type	Standards
	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			■				■	■	■

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	CSA Z259.10
	10150454	■	■		■	■	■		■
10150455	■		■	■	■	■		■	■
10150457	■	■		■	■		■	■	■
10150458	■		■	■	■		■	■	■



### Gravity Welder Full-Body Harness

#### Features

- Made of 100% Kevlar webbing
- Performs very well in high heat/welding applications



### 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

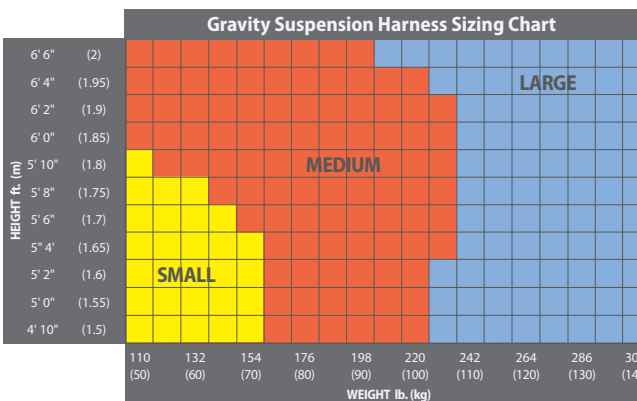
- Quick adjusting, bayonet-style buckles allow one-hand tightening and loosening
- Available with locking engagement window to confirm secure connection
- Undercut engagement prevents both tabs from disconnection while under tension

#### 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



## 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

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

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
	Vesttype	Crossover	Back	Back, Hips	XSM	STD	XLG	SXL	Tongue Buckle			OSHA/ANSI/CSA
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		■		■				■	■	■		■






Vesttype Harness






Crossover Harness

## Harness Accessories

			
PRODUCT	Universal Shoulder Pad	Universal Shoulder Pads	Economic Back Support Pad
PART NO.	10028444	10077489 1 set	507144 nylon

			
PRODUCT	Double D-Ring Extension	Single D-Ring Extension	D-Ring Extender
PART NO.	10203182	10203183	505318
FEATURES	<ul style="list-style-type: none"> <li>• 1" nylon web</li> <li>• Sewn loop</li> </ul>	<ul style="list-style-type: none"> <li>• 1" nylon web</li> <li>• Sewn loop</li> </ul>	<ul style="list-style-type: none"> <li>• Nylon</li> <li>• 1 D-ring</li> <li>• 8" (back D-ring extension)</li> </ul>

	
	<i>P/N 10063441</i>
	<i>P/N 10063431</i>
PRODUCT	Suspension Trauma Safety Step
PART NO.	10063431 with carabiner 10063441 without carabiner
FEATURES	<ul style="list-style-type: none"> <li>• 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</li> </ul>

		
PRODUCT	Lanyard Keepers	Tool Lanyard (includes small carabiner)
PART NO.	10113240	10110670
FEATURES	<ul style="list-style-type: none"> <li>• Velcro</li> </ul>	<ul style="list-style-type: none"> <li>• Tool drop prevention</li> </ul>

		
PRODUCT	EVOTECH Replacement Belt	EVOTECH Replacement Belt
PART NO.	10111427-SP	10111428-SP
FEATURES	<ul style="list-style-type: none"> <li>• Standard size</li> </ul>	<ul style="list-style-type: none"> <li>• X-large size</li> </ul>

LANYARD CLIP	SHW26	Lanyard Clip (Velcro key ring)
2-PIECE KEEPER	10031676	Plastic keeper prevents harness web slippage for better fit

## Connecting Devices: Energy-Absorbing Lanyards

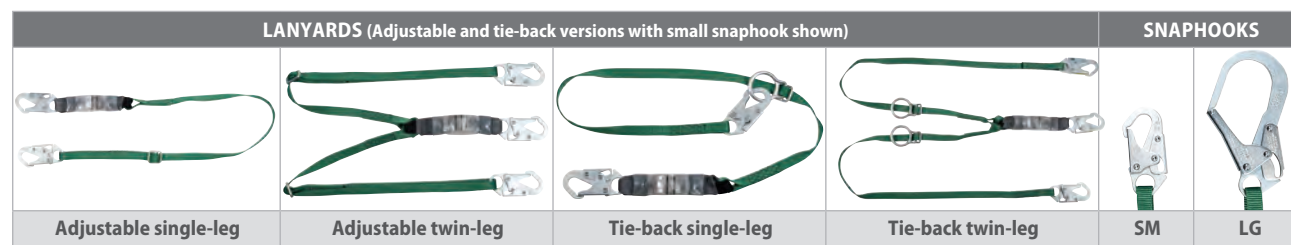
**Choosing the right lanyard can be confusing with so many options!** The V-SERIES line of lanyards will help simplify product selection by using large identifiable icons on the side of the energy absorber, making it easy to find the right lanyard for the right application. On top of that, a simple naming convention based on the application will keep things simple. The new 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.



### 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



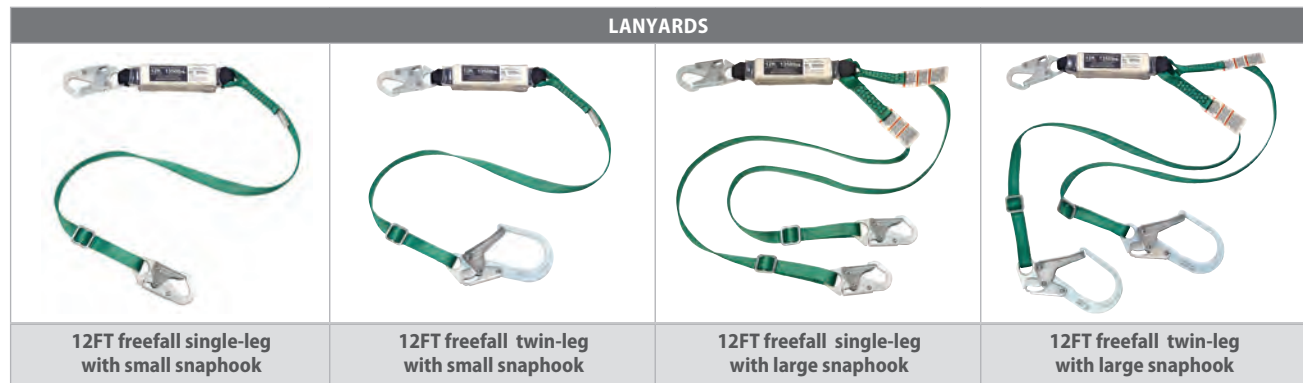
PART NO.	Snaphook(s)	Type					Length	Standards		
		Single-Leg	Twin-Leg	Tie-back	Adjustable	Fixed		ANSI Z359.13	CSA Z259.11-17	CSA Z259.11-17 Lightweight Worker
10191755	SM	■			■		6'	■		
10191756	SM		■		■		6'	■		
10191757	LG	■			■		6'	■		
10191758	LG		■		■		6'	■		
10193124	SM	■				■	3'	■		
10193125	SM	■				■	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



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.



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'	■

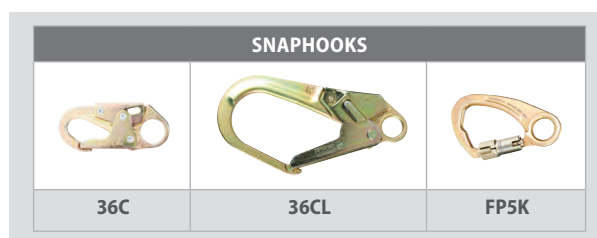
## Connecting Devices: Energy-Absorbing Lanyards

### 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.

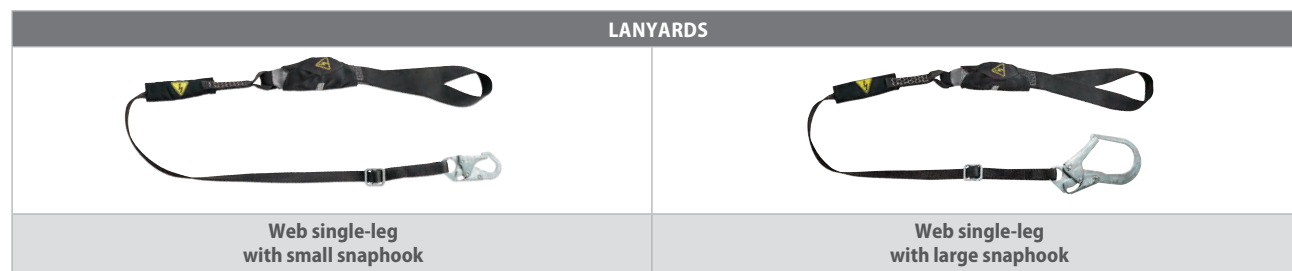


PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards		
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11	OSHA
10193560	36C	FP5K	■		6'	■		■
10193941	36C	FP5K		■	6'	■		■
10193943	36C	FP5K	■		6'		■	
10193944	36C	FP5K		■	6'		■	



### 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.







PART NO.	Type		Snaphooks		Length	Standards		
	Single-Leg	Twin-Leg	Harness Connection	Anchorage Connection		ANSI Z359.13	OSHA	CSA Z 259.11-17
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

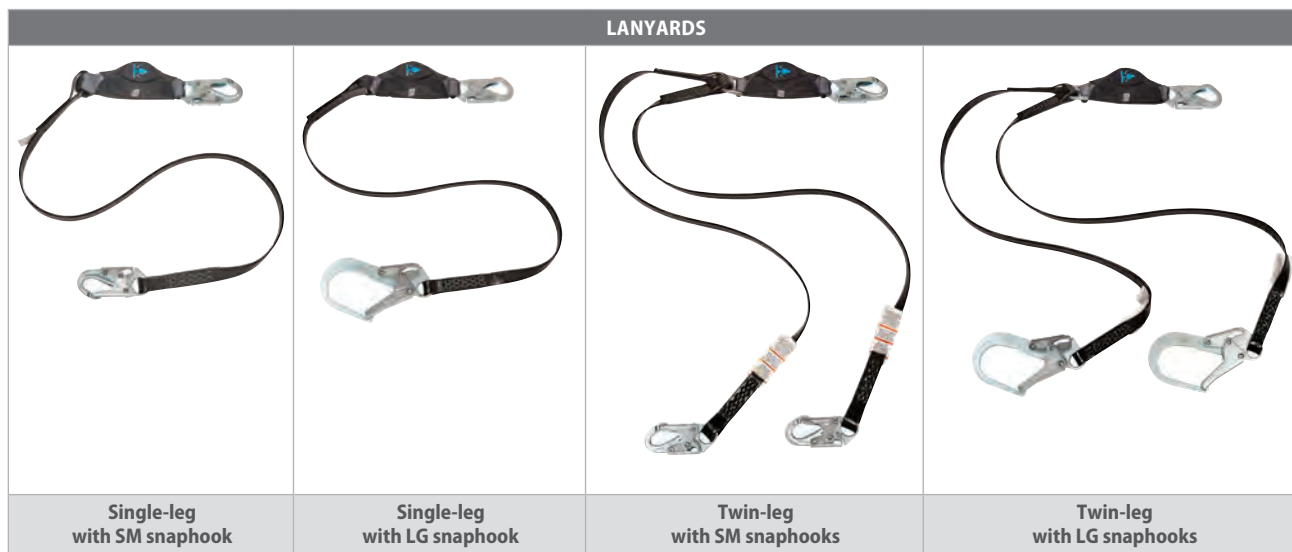
PART NO.	Type				Snaphooks		Length	Standards		
	Single-Leg Cable	Twin-Leg Cable	Single-Leg Web	Twin-Leg Web	Harness Connection	Anchorage Connection		ANSI Z359.13	OSHA	CSA Z 259.11-17
10199011	■				36C	36C	6'	■	■	
10199016	■				36C	36CL	6'	■	■	
10199013		■			36C	(2) 36C	6'	■	■	
10199053			■		36C	36C	6'	■	■	
10199055			■		36C	36CL	6'	■	■	
10199056				■	36C	(1) 36C & (1) 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 environments. The easy to identify anti-corrosion symbol  on the shock absorbing lanyard cover helps to make product selection simple.



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'		■

## 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.



LANYARD TYPES		SNAPHOOKS		
<b>Cable fixed length with 36C snaphooks</b>	<b>Standard tieback with FP5K snaphook</b>	<b>36C</b>	<b>36CL</b>	<b>FP5K</b>

LANYARD TYPES	
<b>Standard adjustable length with 36C snaphooks</b>	<b>Standard adjustable length with 36L snaphook</b>

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

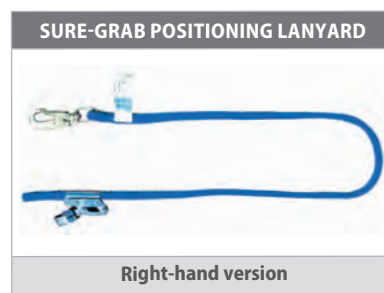
WORK POSITIONING REBAR ASSEMBLIES			SNAPHOOKS	
				
Rebar chain assembly	Rebar web assembly	Rebar web assembly	36C	36CL

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	■



### Energy-Absorbing Sub-Assembly Lanyards

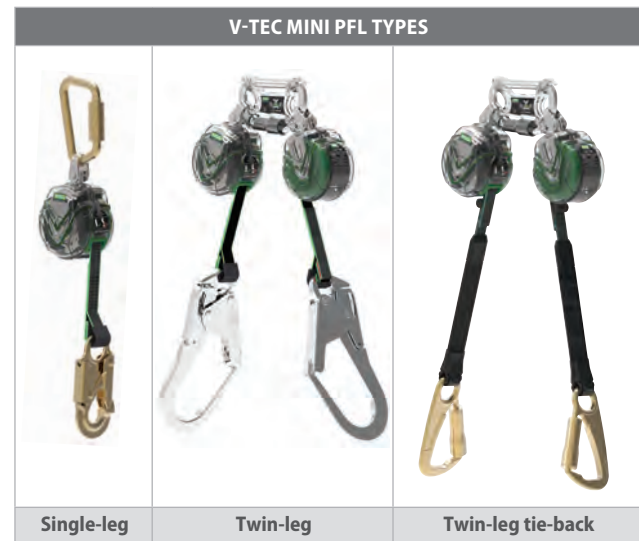
PART NO.	Material			Standards		
	Nylon	Harness Connection	Anchorage Connection	ANSI Z359.13	CSA Z259.11-05	OSHA
10088064	■	36C	D-Ring	■		■
SSA4002LS	■	36C	D-Ring		■	■
10090058	■	36C	D-Ring			■



## Connecting Devices: Self-Retracting Devices

### V-TEC™ Mini Personal Fall Limiters (PFLs)

- Compact and lightweight
- Fall arrest and restraint for users 130 to 400 lbs. (60 to 181 kg) including tools
- 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)
- Requires zero recalibration or adjustment
- Energy absorber is completely sealed from external contaminants
- Fully rotating attachment point for complete flexibility—both 360° and 180°
- Components manufactured from high-grade stainless steel and engineered plastics
- May be used for aerial lifts
- Tested to these relevant standards: ANSI Z359.14, Class B; OSHA 1910.66; OSHA 1926.502; CSA Z259.2.2-98; EN360: 2002



PART NO.	Type			Line Length	Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-Leg	Tie-Back				ANSI	OSHA	CSA
63011-00A	■			6 ft. (1.8 m)	AL36CL	Steel carabiner	■	■	
63011-00B	■			6 ft. (1.8 m)	36C	Steel carabiner	■	■	
63011-00E	■			6 ft. (1.8 m)	36CS	Steel carabiner	■	■	
63011-00F	■			6 ft. (1.8 m)	36CL	Steel carabiner	■	■	
63011-00ACA	■			6 ft. (1.8 m)	AL36CL	Steel carabiner			■
63011-00BCA	■			6 ft. (1.8 m)	36C	Steel carabiner			■
63011-00ECA	■			6 ft. (1.8 m)	36CS	Steel carabiner			■
63011-00FCA	■			6 ft. (1.8 m)	36CL	Steel carabiner			■
63111-00A		■		6 ft. (1.8 m)	AL36CL (2)	Twin-link connector	■	■	
63111-00B		■		6 ft. (1.8 m)	36C (2)	Twin-link connector	■	■	
63111-00E		■		6 ft. (1.8 m)	36CS (2)	Twin-link connector	■	■	
63111-00F		■		6 ft. (1.8 m)	36CL (2)	Twin-link connector	■	■	
63111-00ACA		■		6 ft. (1.8 m)	AL36CL (2)	Twin-link connector			■
63111-00BCA		■		6 ft. (1.8 m)	36C (2)	Twin-link connector			■
63111-00ECA		■		6 ft. (1.8 m)	36CS (2)	Twin-link connector			■
63111-00FCA		■		6 ft. (1.8 m)	36CL (2)	Twin-link connector			■
63041-00A			■	9 ft. (2.7 m)	FP5K	Steel carabiner		■	
63141-00A			■	9 ft. (2.7 m)	FP5K (2)	Twin-link connector		■	
<b>Twin-Link Connector</b>									
63900-04	Twin-link connector for Mini PFL								

## Connecting Devices: Self-Retracting Devices

### V-TEC 10 ft. Personal Fall Limiters (PFLs)

*The world's first self-retracting lifeline with multiple spring radial energy-absorbing technology*

- Integral energy absorber
- Requires zero recalibration or adjustment
- Energy absorber is completely sealed from external contaminants

#### Free range of motion

- Fully rotating attachment point for complete flexibility—both 360° and 180°

#### Precision engineering

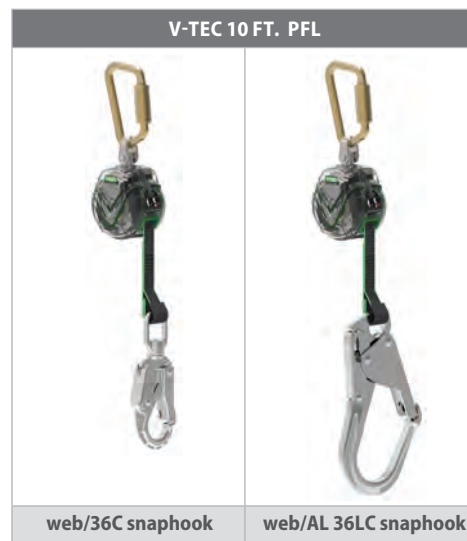
- Structurally reinforced pawl mechanism

#### Highly durable

- Polycarbonate case houses the PFL; transparency allows for easy visual inspection of internal components

#### Superior materials

- Components manufactured from high-grade stainless steel and engineered plastics



PART NO.	Type		Length	Lifeline Connection	PFL Connection	Standards	
	Web	Cable				ANSI Z359.14	CSA Z259.2.2
63013-00A	■		10 ft. (3 m)	AL36CL	Steel carabiner	■	■
63013-00C	■		10 ft. (3 m)	Aluminum swivel carabiner	Steel carabiner	■	■
63013-00E	■		10 ft. (3 m)	36CS	Steel carabiner	■	■
63013-00F	■		10 ft. (3 m)	36CL	Steel carabiner	■	■
63203-00A		■	10 ft. (3 m)	36CS	Steel carabiner	■	
63203-00B		■	10 ft. (3 m)	36CL	Steel carabiner	■	
63203-00ACA		■	10 ft. (3 m)	36CS	Steel carabiner		■
63203-00BCA		■	10 ft. (3 m)	36CL	Steel carabiner		■

### 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 <math><3\text{m/s}</math>
- Completely field serviceable

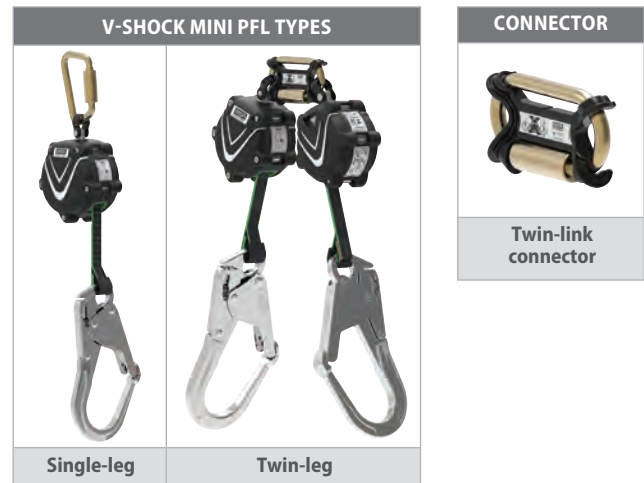
PART NO.	Description
63206-00A	V-TEC Standard Cable SRL, 20 ft. (6 m), galvanized cable, ANSI
63306-00A	V-TEC Standard Cable SRL, 20 ft. (6 m), stainless steel cable, ANSI
63206-00ACA	V-TEC Standard Cable SRL, 20 ft. (6 m), galvanized cable, CSA
63306-00ACA	V-TEC Standard Cable SRL, 20 ft. (6 m), stainless steel cable, CSA
63210-00A	V-TEC Standard Cable SRL, 30 ft. (10m) galvanized cable, ANSI
63215-00A	V-TEC Standard Cable SRL, 50 ft. (15m), galvanized cable, ANSI
63310-00A	V-TEC Standard Cable SRL, 30 ft. (10 m), stainless steel cable, ANSI
63310-00ACA	V-TEC Standard Cable SRL, 30 ft. (10 m), stainless steel cable, CSA
63315-00ACA	V-TEC Standard Cable SRL, 50 ft. (15m) stainless steel cable, CSA
63315-00A	V-TEC Standard Cable SRL, 50 ft. (15m), stainless steel cable, ANSI



## Connecting Devices: Self-Retracting Devices

### V-SHOCK™ Mini Personal Fall Limiters (PFLs)

- **Ruggedized**—A rugged overmold housing provides unsurpassed durability in abusive environments and cuts down the replacement cycle of units from one project to the next, ultimately saving you money.
- **Versatility**—A swivel eyelet provides better worker mobility and versatility by preventing the tangling of the lifeline and not impeding worker movement.
- **Lightweight**—Weighs just 2.0 lbs. (0.9 kg). Less weight on the back reduces fatigue and increases productivity.
- **No External Energy Absorber**—The radial energy absorber is protected and sealed off from the outside environment which extends the life cycle of the unit.



PART NO.	Type			Line Length	Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-leg	Tie-back				ANSI	CSA	OSHA
64011-00A	■			6 ft. (1.8 m)	AL36CL	Steel carabiner	■		■
64011-00ACA	■			6 ft. (1.8 m)	AL36CL	Steel carabiner		■	■
64011-00B	■			6 ft. (1.8 m)	36C	Steel carabiner	■		■
64011-00BCA	■			6 ft. (1.8 m)	36C	Steel carabiner		■	■
64011-00C	■			6 ft. (1.8 m)	Aluminum Swivel Carabiner	Steel carabiner	■		■
64011-00CCA	■			6 ft. (1.8 m)	Aluminum Swivel Carabiner	Steel carabiner		■	■
64011-00F	■			6 ft. (1.8 m)	36CL	Steel carabiner	■		■
64011-00FCA	■			6 ft. (1.8 m)	36CL	Steel carabiner		■	■
64111-00A		■		6 ft. (1.8 m)	AL36CL (2)	Twin-Link Connector	■		■
64111-00ACA		■		6 ft. (1.8 m)	AL36CL (2)	Twin-Link Connector		■	■
64111-00B		■		6 ft. (1.8 m)	36C (2)	Twin-Link Connector	■		■
64111-00BCA		■		6 ft. (1.8 m)	36C (2)	Twin-Link Connector		■	■
64111-00C		■		6 ft. (1.8 m)	Aluminum Swivel Carabiner (2)	Twin-Link Connector	■		■
64111-00CCA		■		6 ft. (1.8 m)	Aluminum Swivel Carabiner (2)	Twin-Link Connector		■	■
64111-00F		■		6 ft. (1.8 m)	36CL (2)	Twin-Link Connector	■		■
64111-00FCA		■		6 ft. (1.8 m)	36CL (2)	Twin-Link Connector		■	■
64041-00A	■		■	9 ft. (2.7 m)	FP5K	Steel carabiner			■
64141-00A		■	■	9 ft. (2.7 m)	FP5K	Steel carabiner			■

V-SHOCK Mini Twin-Link Connector	
PART NO.	Description
64900-04	V-SHOCK Twin-Link Connector

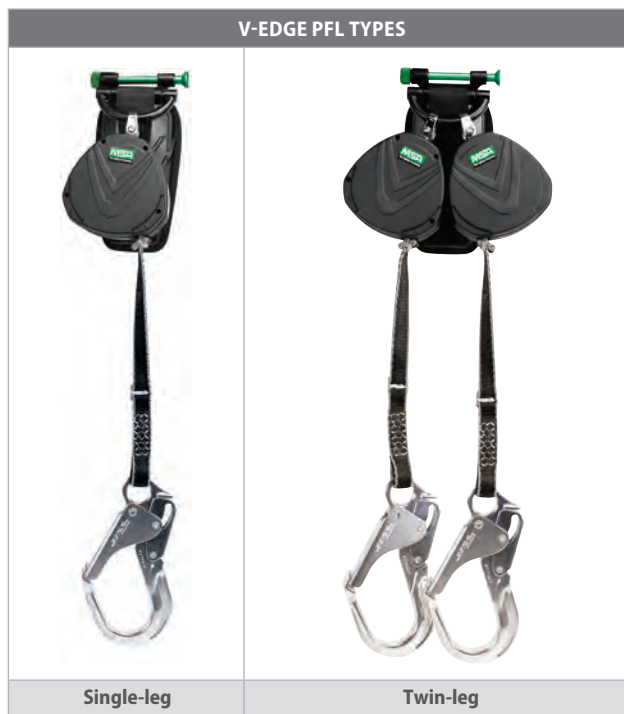
## Connecting Devices: Self-Retracting Devices

### 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



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.



PART NO.	Type		Line Length	Line Type	Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-leg					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	■	■	



## Connecting Devices: Self-Retracting Devices

### 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.

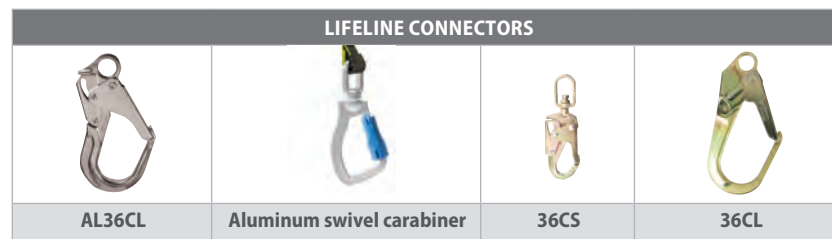
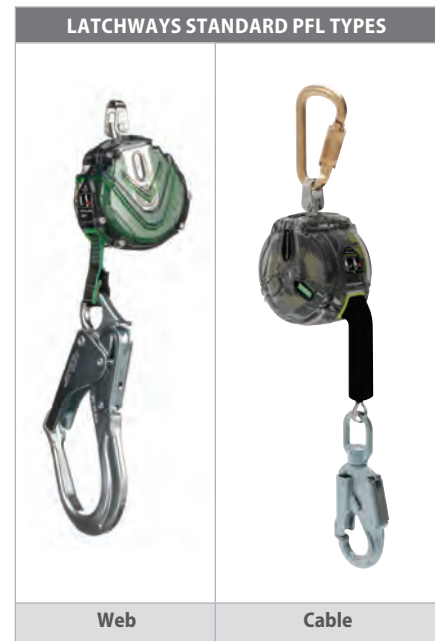
PART NO.	Line Length	Line Type	Anchorage Connection	Harness Connection	Standards		
					OSHA	ANSI	CSA
63406-00A	20 ft. (6 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63406-00ACA	20 ft. (6 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■
63410-00A	30 ft. (10 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63410-00ACA	30 ft. (10 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■
63415-00A	50 ft. (15 m)	Galvanized Cable	36CS Snaphook	Locking Pin	■	■	
63415-00ACA	50 ft. (15 m)	Galvanized Cable	36CS Snaphook	Locking Pin			■



## Connecting Devices: Self-Retracting Devices

### Latchways® Standard Personal Fall Limiters (PFLs)

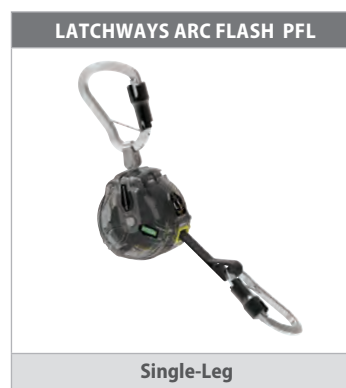
- Compact and lightweight
  - Comes with Latchways Lifecycle Warranty
  - Fall arrest and restraint for users 130 to 400 lbs. (60 to 181 kg) including tools
  - Highly durable polycarbonate clear casing allows for easy visual inspection of critical internal components
  - Withstands temperatures ranging from -40° to +130°F (-40° to +54°C)
  - Integral energy absorber
  - Requires zero recalibration or adjustment
  - Energy absorber is completely sealed
- from external contaminants
  - Fully rotating attachment point for complete flexibility—both 360° and 180°
  - Components manufactured from high-grade stainless steel and engineered plastics
  - Tested to these relevant standards: ANSI Z359.14 – 2012, Class B; OSHA 1910.66; OSHA 1926.502; CSA Z259.2.2-98; EN360: 2002



PART NO.	Web	Cable	Length	Lifeline Connection	PFL Connection	ANSI Z359.14	CSA Z259.2.2
63013-00A	■		10 ft. (3 m)	AL36CL	Steel carabiner	■	■
63013-00C	■		10 ft. (3 m)	Aluminum swivel	Steel carabiner	■	■
63013-00E	■		10 ft. (3 m)	36CS	Steel carabiner	■	■
63013-00F	■		10 ft. (3 m)	36CL	Steel carabiner	■	■
63203-00A		■	10 ft. (3 m)	36CS	Steel carabiner	■	
63203-00B		■	10 ft. (3 m)	36CL	Steel carabiner	■	
63203-00ACA		■	10 ft. (3 m)	36CS	Steel carabiner		■
63203-00BCA		■	10 ft. (3 m)	36CL	Steel carabiner		■

### 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.



PART NO.	Standards		
	ANSI Z359.14	CSA Z259.2.2	ASTM F887
63032-00N	■		■
63032-00NCA		■	■

## 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)



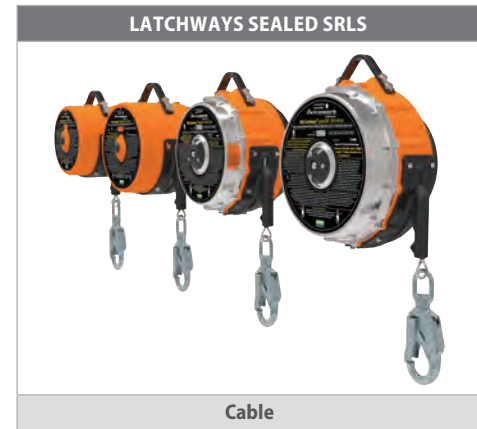
PART NO.	Part Description	Line Type	Length	Size L x W x D	Weight	Anchorage
62007-00US	23 ft. (7 m) webbing SRL	1 x 0.094" (25 x 2.4 mm) polyester webbing	23 ft. (7 m)	10.813 x 7.313 x 4.938" (275 x 186 x 125 mm)	8.4 lbs (3.8 kg)	Double-locking snap hook
62207-00US	23 ft. (7 m) cable SRL	Ø 0.187" (5 mm) stainless steel cable (7x19)	23 ft. (7 m)	13 x 6.688 x 4.813" (330 x 170 x 122 mm)	10.8 lbs (4.9 kg)	Swivel double-locking snap hook
62407-00US	23 ft. (7 m) cable SRL	Ø 0.187" (5 mm) galvanized steel cable (7x19)	23 ft. (7 m)	13 x 6.688 x 4.813" (330 x 170 x 122 mm)	10.8 lbs (4.9 kg)	Swivel double-locking snap hook
62209-00US	30 ft. (9 m) cable SRL	Ø 0.187" (5 mm) stainless steel cable (7x19)	30 ft. (9 m)	14.063 x 7.313 x 5" (357 x 186 x 127 mm)	12.3 lbs (5.6 kg)	Swivel double-locking snap hook
62409-00US	30 ft. (9 m) cable SRL	Ø 0.187" (5 mm) galvanized steel cable (7x19)	30 ft. (9 m)	14.063 x 7.313 x 5" (357 x 186 x 127 mm)	12.3 lbs (5.6 kg)	Swivel double-locking snap hook
62215-00US	50 ft. (15 m) cable SRL	Ø 0.187" (5 mm) stainless steel cable (7x19)	50 ft. (15 m)	15.563 x 8.438 x 5.125" (395 x 214 x 130 mm)	16.3 lbs (7.4 kg)	Swivel double-locking snap hook
62415-00US	50 ft. (15 m) cable SRL	Ø 0.187" (5 mm) galvanized steel cable (7x19)	50 ft. (15 m)	15.563 x 8.438 x 5.125" (395 x 214 x 130 mm)	16.3 lbs (7.4 kg)	Swivel double-locking snap hook

## Connecting Devices: Self-Retracting Devices

### 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.

- 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
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
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
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
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

## Connecting Devices: Self-Retracting Devices

### Workman Mini Personal Fall Limiters (PFL)

#### Features

- Internal pawl-lock design provides many lower level tie-off points for numerous work applications (non-tieback versions)
- 6-ft. and 9-ft. retractable lifeline for standard and tie-back models
- Swivel eye connection eliminates line twisting
- 400-lb. user weight capacity
- May be used for aerial lifts

#### Durability

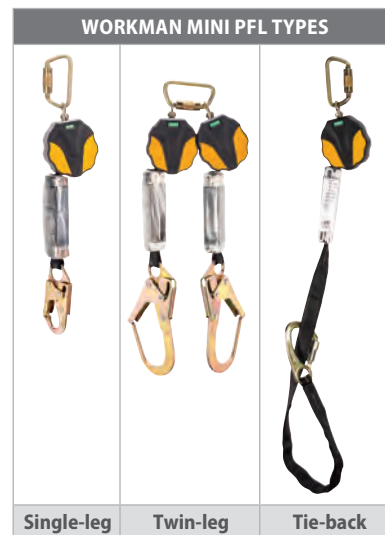
- Rugged, impact-resistant housing for increased product life

#### Added Safety

- External energy absorber provides visual load indicator for easy inspection

#### Approvals

- ANSI Z359.14, Class A
- CSA Z259.2.2
- OSHA



### Workman Mini PFL

PART NO.	Type		Connection		Length	Standards		
	Single-Leg	Twin-Leg	PFL Connection	Lifeline Connection		ANSI Z359.14 (Class A)	CSA Z259.2.2	OSHA
10157841	■		Carabiner	36C	6'	■		■
10157842	■		Carabiner	36CSN	6'	■		■
10157843	■		Carabiner	36CL	5'	■		■
10157844	■		Carabiner	AL36C	6'	■		■
10157845	■		Carabiner	AL36CL	6'	■		■
10157808	■		Carabiner	36C	6'		■	■
10157809	■		Carabiner	36CSN	6'		■	■
10157810	■		Carabiner	36CL	5'		■	■
10157831	■		Carabiner	AL36C	6'		■	■
10157832	■		Carabiner	AL36CL	6'		■	■
10157858		■	Carabiner	36C	6'	■		■
10157859		■	Carabiner	36CSN	6'	■		■
10157860		■	Carabiner	36CL	5'	■		■
10157861		■	Carabiner	AL36C	6'	■		■
10157862		■	Carabiner	AL36CL	6'	■		■
10157852		■	Carabiner	36C	6'		■	■
10157853		■	Carabiner	36CSN	6'		■	■
10157854		■	Carabiner	36CL	5'		■	■
10157855		■	Carabiner	AL36C	6'		■	■
10157856		■	Carabiner	AL36CL	6'		■	■

### Workman Mini PFL with Tie-back

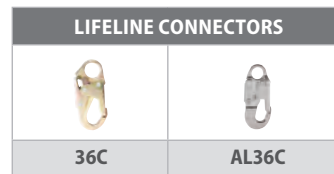
PART NO.	Type			Connection		Length	Standards		
	Single-Leg	Twin-Leg	Tie-Back	PFL Connection	Lifeline Connection		ANSI Z359.14 (Class A)	CSA Z259.2.2	OSHA
10157847	■		■	Carabiner	FP5K	9'			■
10157864		■	■	Carabiner	FP5K	9'			■
10157833	■		■	Carabiner	FP5K	9'		■	■
10157857		■	■	Carabiner	FP5K	9'		■	■

## Connecting Devices: Self-Retracting Devices

### Workman Personal Fall Limiters (PFL)

Workman Personal Fall Limiters are designed to lock-up quickly in the event of a fall allowing minimal free fall distance.

- Rugged, impact-absorbing protective bumpers for added durability
- Rated up to 310 lb. user capacity
- Nylon web



PART NO.	Description	PFL Connection	Lifeline Connection	Standards	
				ANSI Z359.14	OSHA
10093353	Workman PFL, 12-ft. line length	1» Steel Carabiner	36C Snaphook	■	■
10093354	Workman PFL, 12-ft. line length	None	36C Snaphook	■	■

### Workman Self-Retracting Lanyard (SRL) 30 & 50 ft

With lightweight design, durable thermoplastic housing and impact-absorbing bumpers, the Workman SRL will not only be accepted by users, but also provides years of dependable service.

- RFID-enabled product for simplified product tracking and inspection
- 400-lb. working capacity for increased versatility
- Integral, ergonomic carrying handle for easier transport and installation
- Available with galvanized or stainless steel lifeline to fit your varied applications
- Swivel snaphook with load indicator at lifeline end greatly limits twisting of cable; also alerts users that the Workman SRL has been involved in a fall
- Available in 30-ft. and 50-ft. lengths to provide the mobility you need

PART NO.	Description	Lifeline Connection	Standards		
			ANSI Z359.14	CSA Z259.2.2	OSHA
10119507	Workman SRL, 30-ft., galvanized cable	36CS snaphook	■	■	■
10120724	Workman SRL, 30-ft., stainless steel cable	36CS snaphook	■	■	■
10121834	Workman SRL, 50-ft., galvanized cable	36CS snaphook	■	■	■
10121778	Workman SRL, 50-ft., stainless steel cable	36CS snaphook	■	■	■



## Carabiners

MSA offers many carabiners for most applications. All carabiners have minimum breaking strength of 5,000 lbs.



- 9/16» (14 mm) gate opening
- Auto-locking
- Steel
- ANSI Z, CSA

**PART NO.**

10089205



- 3/4» (19 mm) gate opening
- Auto-locking
- Aluminum

**PART NO.**

SRCA613



- 7/8» (22 mm) gate opening
- Twist-lock
- Aluminum

**PART NO.**

506259



- 7/8» (22 mm) gate opening
- Auto-locking
- Steel

**PART NO.**

506572



- 1» (25 mm) gate opening
- Auto-locking with pin
- Steel
- ANSI Z, CSA

**PART NO.**

10089207



- 1» (25 mm) gate opening
- Auto-locking
- Aluminum

**PART NO.**

SRCA883



- 1.2» (32 mm) gate opening
- Auto-locking
- Steel
- NFPA

**PART NO.**

SRCC642



- 1.2» (32 mm) gate opening
- Screw-lock
- Steel
- NFPA

**PART NO.**

SRCC641



- 2.1» (53 mm) gate opening
- Auto-locking with pin
- Steel
- ANSI Z, CSA

**PART NO.**

10089209



- 2.1» (53 mm) gate opening
- Auto-locking with pin
- Aluminum

**PART NO.**

SRCA722



- 2.1» (53 mm) gate opening
- Auto-locking with pin
- Steel

**PART NO.**

506308



- 2» (51 mm) gate opening
- Auto-locking with pin
- Steel
- ANSI Z, CSA

**PART NO.**

SRCC740

## Anchorage Connectors: Straps and Slings

- Minimum breaking strength of 5,000 lbs.
- Compatible for use with MSA fall arrest and confined space entry/retrieval components.



### Anchorage Connector Strap

- Standard 5-ft. length; custom lengths available
- D-ring on one end, sewn hoop on other end

**PART NO.**  
505282



### Double D-ring Anchorage Connector Strap

- Standard 5-ft. length; custom lengths available
- Standard D-ring on one end, large D-ring on other end

**PART NO.**  
10023490



### 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



### Double D-ring Anchorage Connector Strap

- 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.	Description
SFP2267503	3-ft. strap
SFP2267504	4-ft. strap
SFP2267506	6-ft. strap



### Thermatek Anchorage Connector Strap

- 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

**PART NO.**  
10023487



### 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



### PointGuard™ Anchorage Connector Strap—Concrete Construction Model

- 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

PART NO.	Description
10042794	Concrete
10094384	Concrete, box of 50




### PointGuard Anchorage Connector Strap—Residential Construction Model

- 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 Z359.1

PART NO.	Description
10042792	Residential



## Anchorage Connectors: Extensions

	PART NO.	Tie-Off Connection	Anchorage Connection	Length	Standards	
					ANSI Z359	OSHA
<b>Anchorage Connector Extensions</b> • Vinyl-coated • 1/4" galvanized cable	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: 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

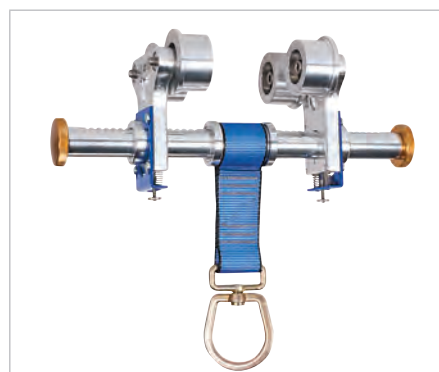
PART NO.
506632



### Bolt D-ring with Hole

- Permanent anchorage connector
- Attaches to bottom of I-beam flange; user supplies bolt
- Designed for horizontal installation

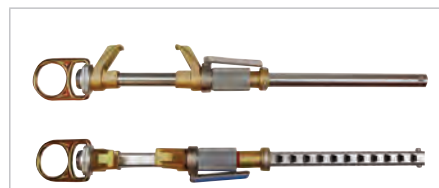
PART NO.
10003213



### Beam Trolley

- Provides horizontal mobility
- Fits all beams

PART NO.
10176450

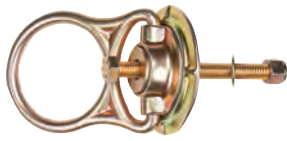


### Vertical Beam Clamp

- Creates fixed anchor point on both vertical and horizontal i-beams

PART NO.
10201927

## Anchorage Connectors: Steel Beam



### MEGA Swivel—Steel Model

- Includes 4» nut bolt and washer

PART NO.	Description
10144944	5K, Capacity 5,000 lbs. (22kN) 1/2» bolt
10129084	10K, Capacity 10,000 lbs. (44kN) 5/8" bolt



### Weld-on Puck

- 3» diameter x 1» thick
- Accessory for MEGA Swivel

PART NO.	Description
10144958	Includes puck and bolt. MEGA Swivel sold separately.

### Replacement Nut Bolt and Washer

- For 5,000-lb. or 10,000-lb. MEGA Swivel

PART NO.	Description
10144947	5K bolt assembly
10144955	10K bolt assembly

## Anchorage Connectors: Concrete Applications



### Removable Concrete Anchors

- Quickly and easily removed and reinstalled in another location
- Compact and lightweight
- Durable stainless steel and aluminum construction
- 400-lb. capacity
- 2 models: 5,000-lb. version (5K) and 10,000-lb. (10K) version
- 10,000-lb. version can be used to anchor MSA Dyna-Line® or SureLine™ Horizontal Lifelines
- Can be used to anchor MSA Gravity™ Horizontal Lifelines

PART NO.	Description
10081594	5K Removable Concrete Anchor
10081570	10K Removable Concrete Anchor



### MEGA Swivel—Concrete Model

- Includes concrete anchor

PART NO.	Description
10144945	5K, Capacity 5,000 lbs(22kN) 1/2» x 4-1/2» hole
10129085	10K, Capacity 10,000 lbs(44kN) 3/4" x 5" hole

### Replacement Concrete Anchor

- For 5,000-lb. or 10,000-lb. MEGA Swivel

PART NO.	Description
10144948	5K bolt assembly
10144956	10K bolt assembly



### MEGA Swivel Hybrid

- Max capacity: 10,000 lbs./44kN.
- MEGA Swivel technology
- Designed for repeated use; durable and 100% retrievable

PART NO.
10144957

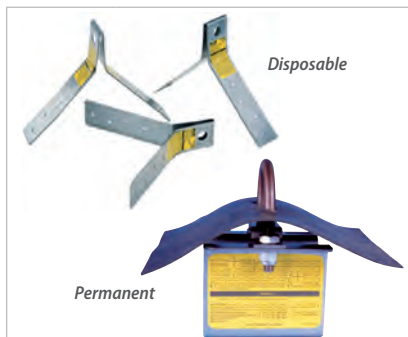


### PointGuard Anchorage Connector Strap—Concrete Construction Model

- 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)

## Anchorage Connectors: Roofing Applications



### 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

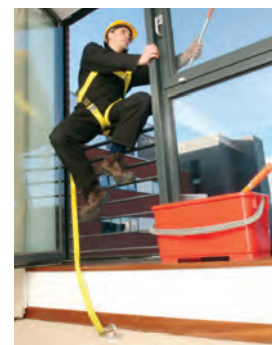
PART NO.	Description
10042792	Residential (with D-ring)

## 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



<p><b>1</b> Install brass finished PushLock socket into a cavity wall.</p>	<p><b>2</b> Depress the safety catch then trigger and locate eyebolt into center of socket. Push the eyebolt with palm of hand until locking mechanism clicks.</p>	<p><b>3</b> Check installation by tugging the trigger. In the secure position, the word "LOCKED" is fully visible on the trigger. A safety lanyard attached to a full-body harness can now be connected to the eyebolt—and the user can begin working.</p>	<p><b>4</b> When work is done, remove the lanyard from the eyebolt. With two hands, depress safety catch then trigger to remove the eyebolt from the socket.</p>



## 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		ACCESSORIES		LIFELINES		
Rope Grab with 30» Sure-Stop Lanyard P/N 415940	SureGrab Trailing Rope Grab P/N 10077718	30» Lanyard P/N 10162823	Trailing Rope Grab Fall Arrester P/N 10113287	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»	■		■
	10113287	grab only	■		■
ACCESSORY	10162823	Separate 30" lanyard for use with 10113287 rope grab to maintain CSA compliance			

	ANSI Z359.1	CSA Z259.2.5	Length					Base Rope Part No.
			25»	50»	75»	100»	Custom	
LIFELINES, 3-STRAND, 5/8"		■	R512539LLC025	R512539LLC050	R512539LLC075	R512539LLC100	R512539LLCXXX*	R512539
		■	R512544LLC025	R512544LLC050	R512544LLC075	R512544LLC100	R512544LLCXXX*	R512544
	■	■	SRP9200LLC025	SRP9200LLC050	SRP9200LLC075	SRP9200LLC100	SRP9200LLCXXX*	SRP9200
	■		415865	415869	415870	415871	R512539LLAXXX*	R512539

\*For custom length part numbers, XXX represents length in feet. Custom rope lengths may be ordered in the increments shown below.

Base Ropes	Material	Elongation at 1800 lbs.	Min 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.

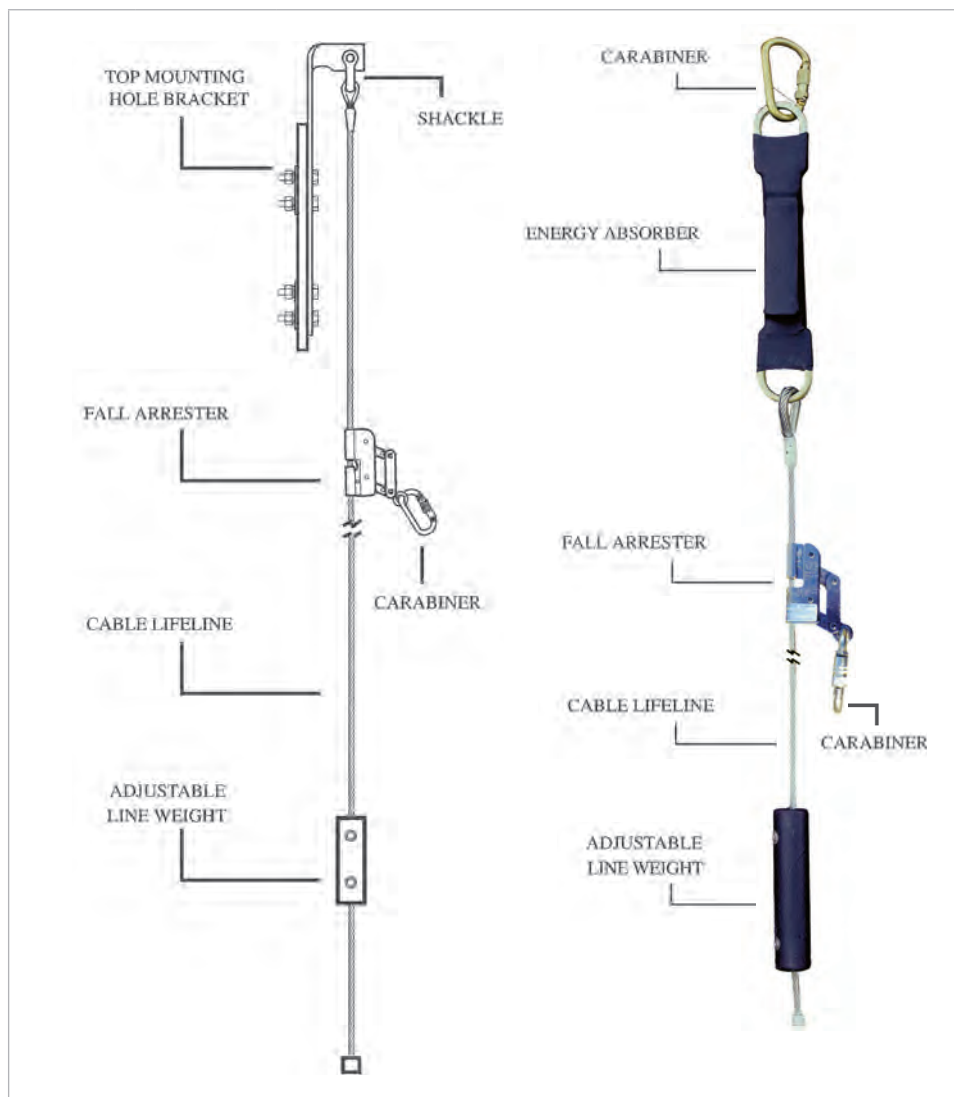
### Custom Rope Lengths

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



SureClimb Extension Davit and Base Assembly

PART NO.

10036032 Extension davit and base assembly



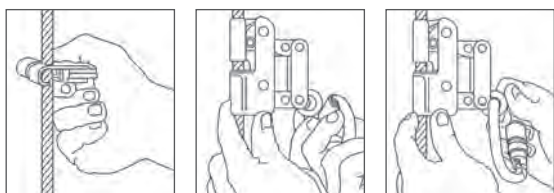
SureClimb Slider

- 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

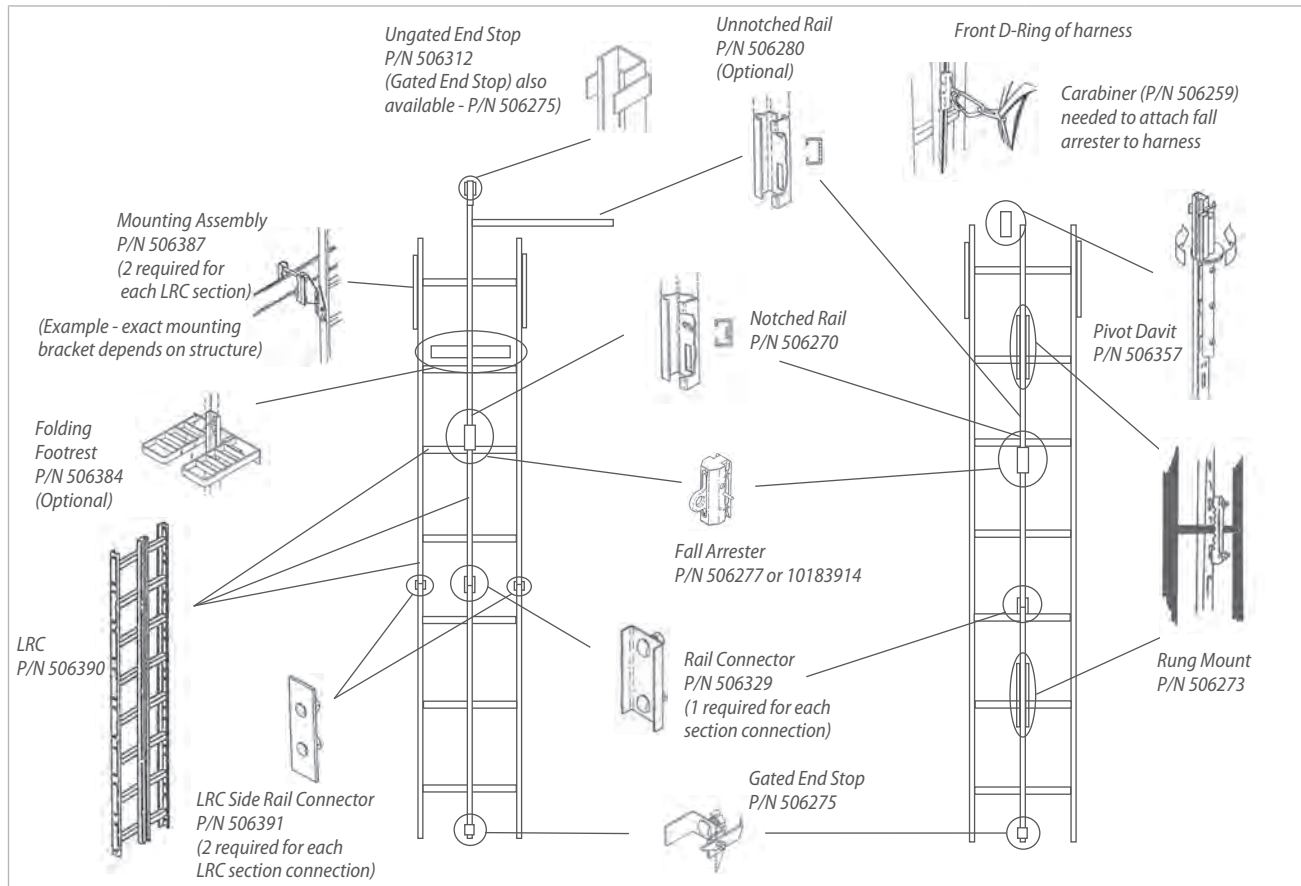


SureClimb Slider can be attached and removed anywhere along the length of cable

## 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)



PRODUCT	SureClimb Permanent System	
PART NO.	<b>506270</b>	Straight Notched Rail, galvanized, standard length 7' 4-3/16"
	<b>506273</b>	Rung Mount Assembly, galvanized
	<b>506274</b>	Gated top end stop, stainless steel
	<b>506275</b>	Gated bottom end stop, stainless steel
	<b>506277</b>	Fall arrester
	<b>10183914</b>	Fall arrester
	<b>506282</b>	Mounting base angle corner, galvanized
	<b>506283</b>	Mounting angle corner, galvanized
	<b>506312</b>	Ungated top end stop, stainless steel
	<b>506329</b>	Rail connector, galvanized
	<b>506388</b>	Ladder/Rail Combination (LRC) standoff bracket, galvanized, standard length 7' 4-3/16"
	<b>506389</b>	LRC standoff bracket, bottom, galvanized
	<b>506390</b>	LRC, galvanized (CSA Part No. 10006461)
	<b>506391</b>	LRC side rail connector, galvanized



For more complete information on the Dyna-Glide System, see the Dyna-Glide Catalog (Bulletin 2300-22-MC).

## Horizontal Lifelines: Temporary

### Gravity Sure-Line™ Temporary Cable 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.

- Patented bypass shuttles allow users to pass each other on the same system while maintaining 100% tie-off
- Incorporates combination clamp/thimble that provides effortless lifeline tensioning
- Steel cable
- Available in 20 ft., 40 ft. or 60 ft. lengths in two models (with and without turnbuckles)
- Includes integral shock absorber



PRODUCT	Steel Cable Horizontal Lifeline System	
PART NO.	10150420	Steel Cable Horizontal Lifeline System w/turnbuckle, 20 ft. (6m)
	10150421	Steel Cable Horizontal Lifeline System w/turnbuckle, 30 ft. (9m)
	10150416	Steel Cable Horizontal Lifeline System w/turnbuckle, 40 ft. (12m)
	10150422	Steel Cable Horizontal Lifeline System w/turnbuckle, 50 ft. (15m)
	10150418	Steel Cable Horizontal Lifeline System w/turnbuckle, 60 ft. (18m)
PRODUCT	Ironworker Cable Horizontal Lifeline System	
PART NO.	10150417	Ironworker Cable Horizontal Lifeline System without turnbuckle, 40 ft. (12 m)
	10150419	Ironworker Cable Horizontal Lifeline System without turnbuckle, 60 ft. (18 m)



Bypass

Sure-Line Cable Clearance (ft-in)							
Line Length	1-Worker System			2-Worker System			Initial Sag
	6-ft. Lanyard	Class A SRL	Class B SRL	6-ft. Lanyard	Class A SRL	Class B SRL	
10	12-4	5-7	7-0	14-5	6-2	7-10	1
20	13-6	6-7	7-6	17-1	8-6	10-0	1.5
30	14-9	7-6	8-4	19-0	10-4	12-3	2
40	16-0	8-6	9-4	21-0	12-1	14-1	2.5
50	17-1	9-5	10-3	22-9	13-11	15-10	3
60	18-2	10-4	11-2	24-5	15-8	17-8	4

Assumes 220-lb. workers with HLL at D-ring level or higher

## 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.



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.	10013150	Dyna-Line Temporary Horizontal Lifeline, 30-ft. rope (9 m)
	10013151	Dyna-Line Temporary Horizontal Lifeline, 60-ft. rope (18 m)
	10022826	Dyna-Line Temporary Horizontal Lifeline, 200-ft. rope (61 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)						
Line Length	1-Worker System			2-Worker System		
	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)						
Line Length	1-Worker System			2-Worker System		
	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®)

- 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 environments
- Significantly reduces rescue time
- Lone worker use
- Self-activated
- Intuitive use
- Clear rescue plan
- Improves user safety



PRD PART NO.	Harness Type			Size		Line Length	Standards		
	EVOTECH	EVOTECH Lite	EVOTECH Arc Flash	STD	XLG		ANSI Z359	CSA Z259	OSHA
10176307	■			■		65 ft.	■	■	■
10176308	■				■	65 ft.	■	■	■
10176309		■		■		65 ft.	■	■	■
10176310		■			■	65 ft.	■	■	■
10176311			■	■		65 ft.	■		■
10176312			■		■	65 ft.	■		■

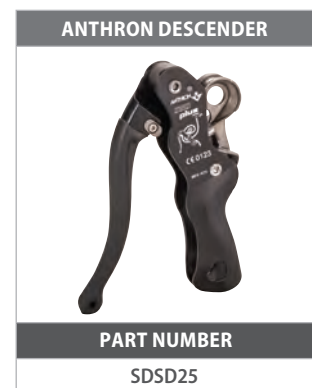


## Rescue Equipment: Anthron Descent Device System

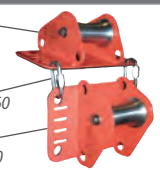

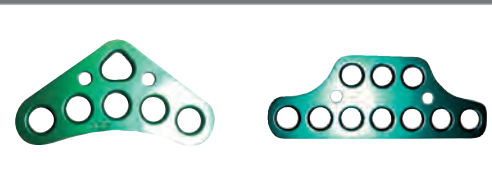

- Manually operated, controlled descent device used for suspended work positioning, self-evacuation, or rescue operations
- Cam assembly provides friction on rope to hold load or allow load to descend at controlled rate
- System consists of 7/16" (11 mm) rope, Anthron Descender and two carabiners
- Device 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 7/16" (11 mm) rope, Anthron Descender, and 2 carabiners

ANTHRON DESCENT DEVICE SYSTEM	SDC726050	System includes: Anthron descender, 2 carabiners, 50' 7/16" (11 mm) rope
	SDC726100	System includes: Anthron descender, 2 carabiners, 100' 7/16" (11 mm) rope
	SDC726150	System includes: Anthron descender, 2 carabiners, 150' 7/16" (11 mm) rope

*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				
 <p>Part No. SPPRL4000</p> <p>Part No. SMI420560</p> <p>Part No. SPPRL4000</p>				
<b>SuretyMan™ Edge Roller</b>	<b>SuretyMan Rescue Eight</b>	<b>SuretyMan Rigging Plates</b>		<b>SuretyMan Carabiner</b>
Protects rope from sharp edges and reduces rope friction	For rope diameters from 7/16" (11 mm) to 5/8" (16 mm)	<b>Stealth Rigging Plate:</b> (left) anchor on point and wings will rotate toward load for straighter line of pull <b>Stretcher Rigging Plate:</b> (right) designed to unclutter and organize litter rigging points, reducing chance of error.		Developed for fire and rescue communities

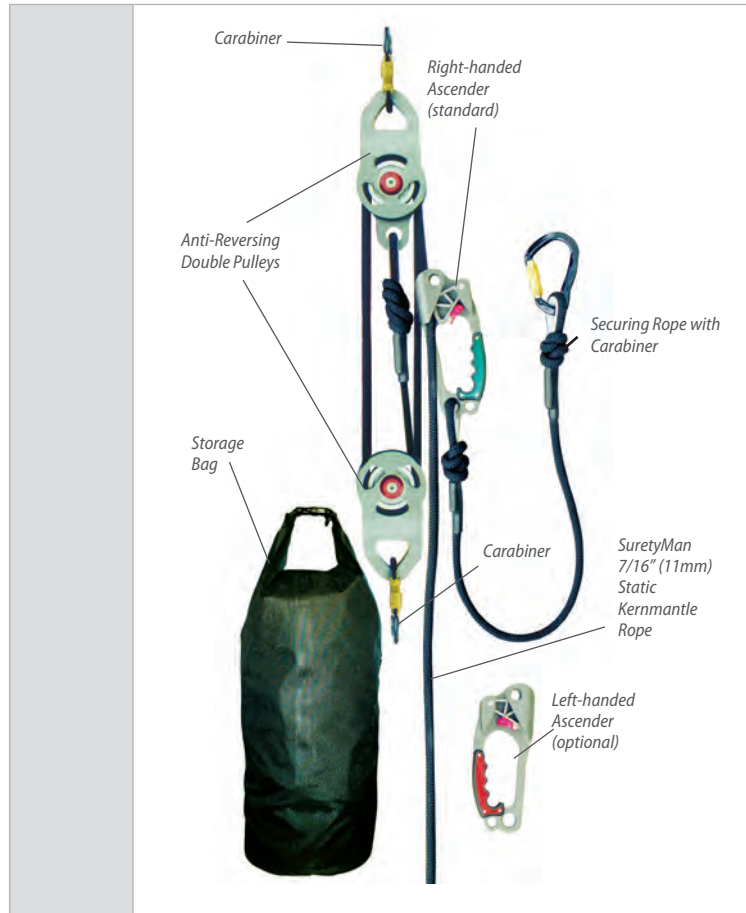
PART NO.	Description	Strength	Weight	Material
SPPRL4000	SuretyMan Edge Roller w/ rubber-covered 6" x 10" (15.3 cm x 24.4 cm) base, bottom/side plate attachment hole, slots in base plate for tube webbing	—	2.8 lb. (1.3 kg)	Aluminum
SMI420560	Quick Link 5/16" (8 mm) for use with SuretyMan Edge Roller [two required]	—	—	Aluminum
SRSF5077	SuretyMan Rescue Eight	6,720 lb. (30 kN)	1.5 lb. (675 g)	Aluminum
SRSFR5990	SuretyMan Stealth Rigging Plate, teal	11,000 lb. (48 kN)	.46 lb. (250 g)	Aluminum
SRSFR5980	SuretyMan Stretcher Rigging Plate, teal	12,200 lb. (54 kN)	74 lb. (330 g)	Aluminum
SRCC641	Carabiner, 1.2" (32mm) gate, manual locking, NFPA 1993-1994, Class G	12,364 lbs (55 kN)	11 oz (311 g)	Zinc-plated carbon steel

RESCUE ROPES AND ACCESSORIES				
				
<b>Rescue Rope</b>	<b>Rope Bag #1</b>	<b>Rope Bag #2</b>	<b>Termination Plate</b>	

PART NO.	FP RESCUE ROPES
SRP508960050	5/8" (16 mm), nylon, 11,400 lb. (5,171 kg), black, 50'
SRP530961050	1/2" (12 mm) polyester, 9,100 lb. (4,128 kg), red, 50' (Meets NFPA requirements)
SRP504860SL050	1/2" (12 mm), nylon, 9,100 lb. (4,128 kg), white/orange tracer, 50'
SRP504866SL050	1/2" (12 mm), nylon, 9,000 lb. (4,083 kg), white/blue tracer, 50'
SRP504863SL050	1/2" (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	3/8" (10 mm), nylon, 5,000 lb. (2,269 kg), white/blue tracer, 50'
SRP500900	9 mm Accessory Cord, nylon. Use with 1/2"-5/8" (1.3cm-1.6cm) main line, 3,600 lb. (1,632 kg)
SRP500860	8 mm Accessory Cord, nylon. Use with 1/2"-5/8" (1.3cm-1.6cm) main line, black, 3,100 lb. (1,406 kg)
SRP500700050	7 mm Accessory Cord, nylon. Use with 3/8"-1/2" (1cm-1.3cm) 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 1/2" (36.6m 12 mm) rope
SRB430105	Rope Bag #1, black, holds 120-ft 1/2" (36.6m 12 mm) rope
SRB430201	Rope Bag #2, orange, holds 200-ft 1/2" (60.1m 12 mm) rope
SRB430205	Rope Bag #2, black, holds 200-ft 1/2" (60.1m 12 mm) rope
SRB430301	Rope Bag #3, orange, holds 300-ft 1/2" (91.4m 12 mm) rope
SRB430305	Rope Bag #3, black, holds 300-ft 1/2" (91.4m 12 mm) rope
SRB430601	Rope Bag #6, orange, holds 600-ft 1/2" (182.8m 12 mm) rope
SRB430605	Rope Bag #6, black, holds 600-ft 1/2" (182.8m 12 mm) rope
PART NO.	Accessory
SRIW1000	Termination plate 5/8"

### SuretyMan Rescue Utility System

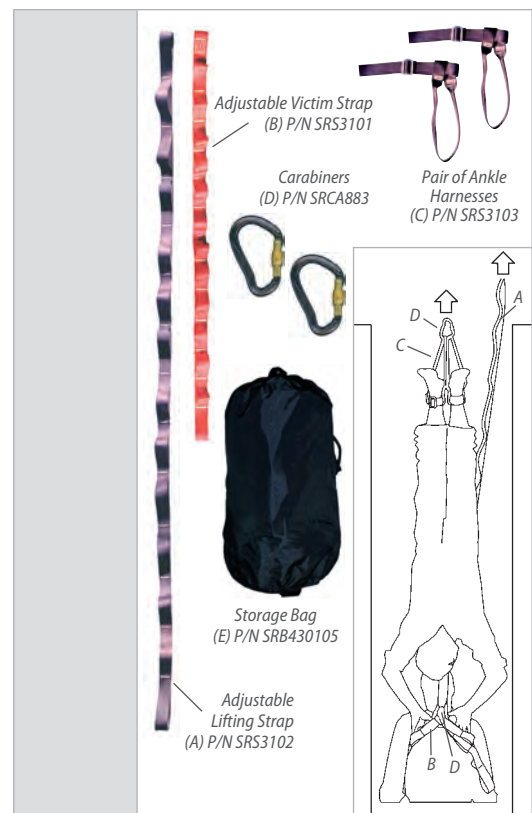


<b>PRODUCT</b>	SuretyMan Rescue Utility System	
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Primarily used for raising and lowering people or equipment in rescue/ industrial work access/confined space applications</li> <li>• Pulleys equipped with a built-in anti-reversing lock</li> <li>• Offers rapid deployment, is virtually maintenance free, and is rated for two-person load</li> <li>• Compact and lightweight: standard system weight 17 pounds (7.7 kg)</li> <li>• Rated capacity of 600 lbs. (272 kg) for personnel</li> <li>• Standard rope length 200 ft. (66m) with maximum rope length 800 ft. (267m)</li> </ul>	

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' (61m)
SRS15300	SuretyMan Rescue Utility System	300' (91.4m)
SRS15400	SuretyMan Rescue Utility System	400' (122m)
10093608	SuretyMan Rescue Utility System	500' (152.4m)
10033360	SuretyMan Rescue Utility System	600' (183m)
10101135	SuretyMan Rescue Utility System	800' (244m)
10037101	Left-hand ascender with securing rope	
10035698	Right-hand ascender with securing rope	

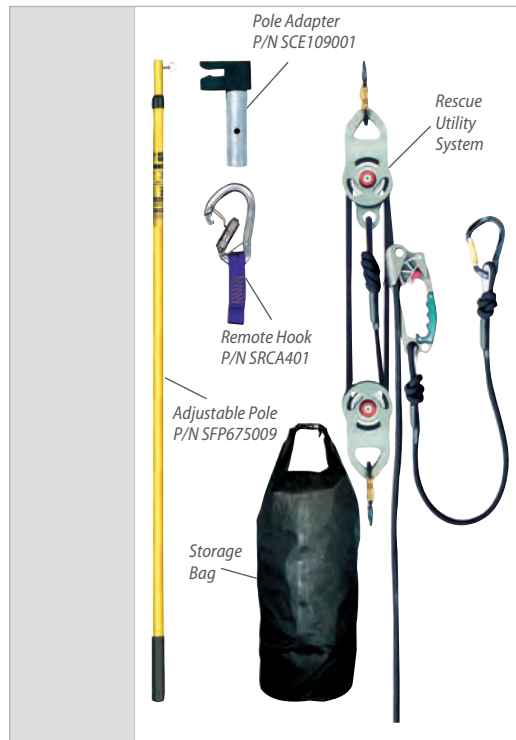
### Confined Space/Head First Extraction System



<b>PRODUCT</b>	Confined Space/Head First Extraction System
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Specialized rescue product designed for extreme cases in which rescuer needs to be lowered head-first into confined space to perform rescue</li> <li>• Allows rescuer to harness victim, and raise both victim and rescuer out of confined space</li> <li>• Leaves both hands free for rescuer to assist in retrieval of victim</li> <li>• Consists of adjustable lifting strap (A), adjustable victim strap (B), one pair of ankle harnesses (C), two carabiners (D), and storage bag (E)</li> <li>• Can be used with any confined space retrieval equipment such as tripods and davits</li> <li>• Strength: 5,000 lb. (22 kN)</li> <li>• Weight approx: 2 lb. (0.9 kg)</li> </ul>

PART NO.	Description
SRS3100	Confined Space/ Head First Extraction System
SRS3103	Rescue anklets
507002	Rescue wristlets

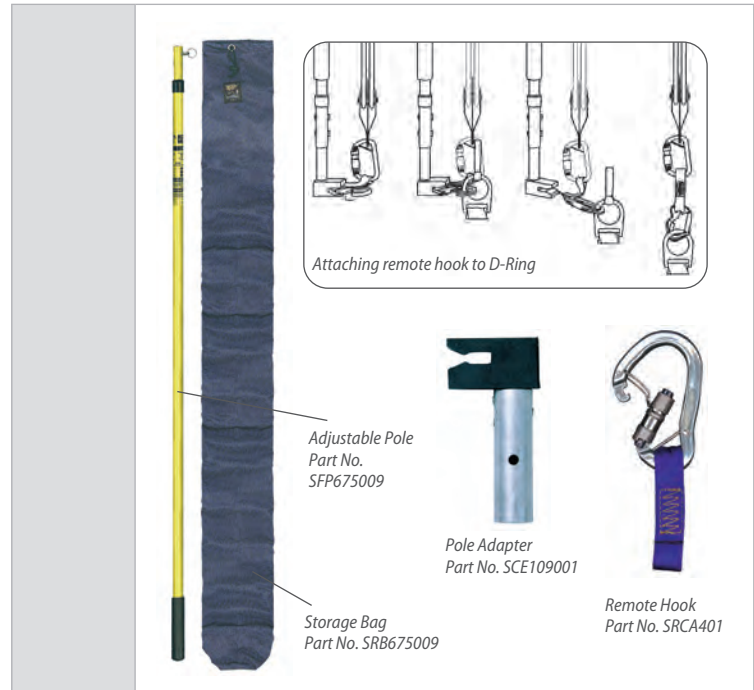
## Fall Protection Rescue Kit



<b>PRODUCT</b>	FP Protection Rescue Kit
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Out-of-the-bag rescue system</li> <li>• 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</li> <li>• Kit should be used with back-up system (not included)</li> </ul>

PART NO.	Description
10030025	Fall Protection Rescue Kit

## Rescue Pole/Remote Hook



<b>PRODUCT</b>	Rescue Pole/Remote Hook
<b>FEATURES</b>	<ul style="list-style-type: none"> <li>• Rescue tool for retrieval of worker suspended in fall arrest system or for remote rescue access</li> <li>• System includes adjustable fiberglass pole, pole adapter, and remote hook</li> <li>• Optional nylon storage bag</li> </ul>

PART NO.	Description
SFP675009	Adjustable pole, fiberglass, 6' (1.8m) to 12' (3.6m)
SFP675012	Adjustable pole, fiberglass, 8' (2.4m) to 24' (7.3m)
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.	Description
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.	Description
507005	Tool Holder, 18"
507006	Tool Holder, spark resistant, 18"

### Tagline

- SRL accessory

PART NO.	Description
505230	95'
10147490	50'
10125759	30'
10147631	10'



## MSA Safety Training

### 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

- Consensus standards
- Formal documentation requirements
- Formal inspection process
- Equipment cleaning and storage

#### AUTHORIZED PERSON FOR SAFETY AT HEIGHTS

- 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

- 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

- 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

- 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

See Competent Person for Safety at Heights course

#### QUALIFIED PERSON

Designed for Engineers, Designers and Safety Professionals who are responsible to analyze or design fall protections systems.

#### COMPETENT PERSON FOR HORIZONTAL LIFELINE INSTALLATION & INSPECTION

- 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

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

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, Chicago, 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](mailto:training@msasafety.com) or visit our website [www.msasafety.com](http://www.msasafety.com)

## 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

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*Our business is safety. We've been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they're also highly sophisticated devices and protective gear—the result of countless R&D hours, relentless testing and an unwavering commitment to quality that saves lives and protects millions of hard working men and women each and every day. Many of our most popular products integrate multiple combinations of electronics, mechanical systems and advanced materials to help ensure that users around the world remain protected in even the most hazardous of situations.*

## Our Mission

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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.**

Note: This Bulletin contains only a general description of the products shown. While product uses and performance capabilities are generally described, the products shall not, under any circumstances, be used by untrained or unqualified individuals. The products shall not be used until the product instructions/user manual, which contains detailed information concerning the proper use and care of the products, including any warnings or cautions, have been thoroughly read and understood. Specifications are subject to change without prior notice.

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit [MSAsafety.com/offices](https://www.msasafety.com/offices).