

MSA Safety Equipment Catalog

Volume 17, Number 1
2017-2018



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

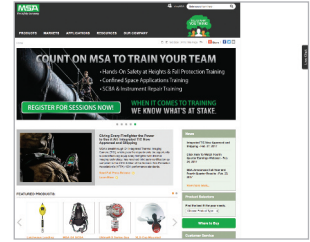
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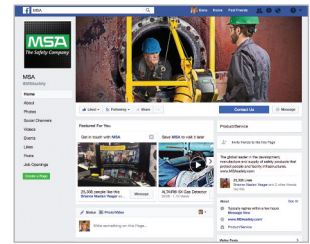
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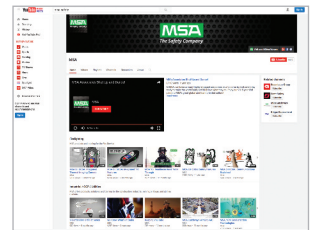
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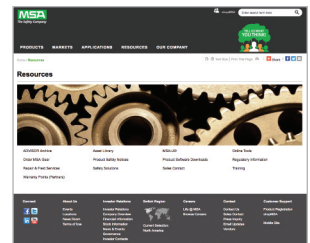
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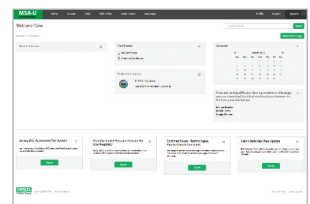


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Award-Winning **Customer Service**



**Every customer wants it.
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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.

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 - Provide price and availability information
 - Order status/delivery information
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 - 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:

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FAX. 1-800-967-0398
Email: Orders. PlaceOrder@MSAsafety.com
Email: U. S. Customer Service. US.CS@MSAsafety.com
Email: Canada Customer Service. CANADA.CS@MSAsafety.com
Email: Fire Service Customer Service. FIRE.CS@MSAsafety.com
MSA Voice Mail System. 1-800-759-6423
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MSA Corporate Center
1000 Cranberry Woods Drive
Cranberry Twp, PA 16066

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To contact N. A. Export Customer Service:

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Email. info.us@msasafety.com

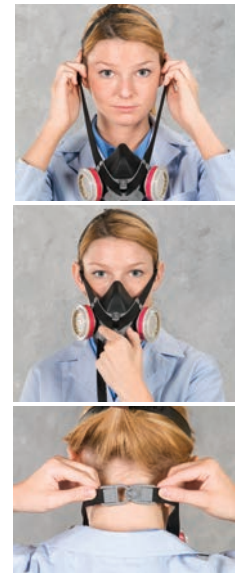
Advantage® 420 Half-Mask Respirator



- 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 Germicidal Cleaner, 32 oz	
	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 2-piece neckstrap
	815448	815444	815452	Advantage 200 LS Respirator, with single 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 polyester net head harness, hycar
	10083787	10083783	10083791	Advantage 4200 Facepiece, with rubber head harness, hycar
	10108570	10108568	10108572	Advantage 4200 Facepiece, with Kevlar net head harness, hycar
ADVANTAGE 4200 FACEPIECES	10083784	10083760	10083788	Advantage 4200 Facepiece, with polyester net head harness, silicone
	10083786	10083782	10083790	Advantage 4200 Facepiece, with rubber head harness, silicone
	10108569	10108567	10108571	Advantage 4200 Facepiece, with Kevlar net head harness, silicone
ADVANTAGE 4100 FACEPIECES*	10083797	10083793	10083801	Advantage 4100 Facepiece, with polyester net head harness, hycar
	10083799	10083795	10083803	Advantage 4100 Facepiece, with rubber head harness, hycar
	10108576	10108574	10108578	Advantage 4100 Facepiece, with Kevlar net head harness, hycar
ADVANTAGE 4100 FACEPIECES*	10083796	10083792	10083800	Advantage 4100 Facepiece, with polyester net head harness, silicone
	10083798	10083794	10083802	Advantage 4100 Facepiece, with rubber head harness, silicone
	10108575	10108573	10108577	Advantage 4100 Facepiece, with Kevlar net head harness, silicone

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

FACEPIECE ADAPTER ASSEMBLIES for Advantage 4000 Facepieces	10065328	Adapter assembly, twin-cartridges
	10065328	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

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		⚠ WARNING														
R95 Snap-On Prefilter and Cover	815397 Box of 20 815401 Reusable Snap-On Cover, 2 in a Package		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			Acrolein			Hydrogen cyanide			Nitric acid			Phosphorus trichloride					
N95-Particulate Filter (95% filter efficiency level) effective against particulate aerosols free of oil; time use restrictions may apply.			Aniline			Hydrogen selenide			Nitro compounds			Stibine					
R95-Particulate Filter (95% filter efficiency level) effective against all particulate aerosols; time use restrictions may apply.			Arsine			Methanol			Nitrogen oxides			Sulfur chloride					
P100-Particulate Filter (99.97% filter efficiency level) effective against all particulate aerosols.			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																	
1. Do not use in atmospheres containing less than 19.5 percent oxygen, in atmospheres containing gases or vapors or in atmospheres immediately dangerous to life and health.																	
2. Do not use in atmospheres containing less than 19.5 percent oxygen, or in atmospheres immediately dangerous to life and health.																	
3. Do not wear for protection against organic vapors with poor warning properties or those which generate high heats of reaction with the sorbent material in the cartridge.																	
4. 99.97 percent efficient against 0.3 micron DOP.																	
5. Both a prefilter and cover must be used with the cartridge in order to obtain R95 or N95 particulate protection.																	

Comfo Respirator Cartridges

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

MSA Cartridge Description	Re-Order Part Number	Color Coding	Acid Gases												Filter Type & Efficiency			See Notes on p. 6	
			OV	CL	SD	CD	HC	HS	AM	MA	FM	HF	MV	P100	R95	N95			
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 Ultavue/Ultra Elite facepieces w/1/4-turn quick-disconnect, w/Type H cartridge
		803622	Twin-Cartridge Adapter for Ultavue 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 Ultavue/Ultra Elite facepieces w/1/4-turn quick-disconnect, w/Type H cartridge
		803622	Twin-Cartridge Adapter for Ultra Elite Facepieces
		491500	Cover Lens, clear, box of 25
		805456	Cover Lens, smoke-tinted, box of 25
		D2056734	Black plastic carrying/storage case

Cleaning Supplies

PRODUCT NAME	MSA Confidence Plus® Germicidal Cleaner
DESCRIPTION	Mix with warm water for a germicidal cleaner that is effective against various micro-organisms including immunodeficiency virus Type 1 (HIV-1, associated with AIDS). EPA-approved for use on safety equipment.
PART NO.	10009971

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

MSA Respirator Fit Test Compliance

29 CFR Part 1910.134

Advantage 200LS Respirator	Advantage 420 Respirator	Comfo Classic Respirator	Comfo Elite Respirator
Advantage 3100 Respirator	Advantage 3200 Respirator	Advantage 4100 Respirator	Advantage 4200 Respirator
Advantage 1000/Millennium Respirator	Ultra-Twin Respirator	Ultravue Respirator	Ultra Elite Respirator
MSA RESPIRATOR FIT TEST KITS	697287	Saccharin Qualitative Fit Test Kit	
	697444	Bitrex Qualitative Fit Test Kit	
	801628	Banana Oil Qualitative Fit Test Kit	
	697285	Replacement (Saccharin) Sensitivity Test	
	697445	Solution, 55 ml bottle (Bitrex)	
	697286	Replacement Fit-Test (Saccharin) Solution, 55 ml bottle	
	697446	Replacement Fit-Test (Bitrex) Solution, 55 ml bottle	
	697447	#1 Sensitivity Nebulizer	
697459	#2 Fit-Test Nebulizer		
697448	Test Hood (Same for Both)		
697325	"Using the Qualitative (Saccharin) Fit Test Kit" DVD		
697449	"Using the Qualitative (Bitrex) Fit-Test Kit" DVD		

Online Resources



Online Response® Respirator Selector

Available at 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

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	Material	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	TPR	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	Silicone	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	Silicone	10	Qualitative or Quantitative	100	Quik Chek® II Adapter #812022	Threaded	S (808255), M (808249), L (808261)	OHD P/N 9513-0109
Comfo Classic	Half-Mask Negative Pressure	Hycar	10	Qualitative or Quantitative	100	Quik Chek II Adapter #812022	Threaded	S (808253), M (808247), L (808259)	OHD P/N 9513-0109
Comfo Elite	Half-Mask Negative Pressure	Silicone	10	Qualitative or Quantitative	100	Quik Chek II Adapter #812022	Threaded	S (491862), M (491860), L (491864)	OHD P/N 9513-0109
Advantage 3100	Full-Face Negative Pressure	Silicone	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	Silicone	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	Hycar or Silicone	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078	N/A	N/A	OHD P/N 9513-0217
Advantage 4200	Full-Face Negative Pressure	Hycar or Silicone	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	Silicone	50	Qualitative or Quantitative*	500	Advantage Adapter #10056424	Bayonet	N/A	OHD P/N 9513-0219
Ultra-Twin	Full-Face Negative Pressure	Silicone	50	Qualitative or Quantitative*	500	Quik Chek II Adapter #812022	Threaded	S (482025), M (482024), L (482026)	OHD P/N 9513-0109
Ultra-Twin	Full-Face Negative Pressure	Hycar	50	Qualitative or Quantitative*	500	Quik Chek II Adapter #812022	Threaded	S (417683), M (465457), L (471684)	OHD P/N 9513-0109
Ultravue	Full-Face Negative Pressure	Silicone	50	Qualitative or Quantitative*	500	Quik Chek I Adapter #802710	N/A	S (482009), M (482008), L (482010)	OHD P/N 9513-0130
Ultravue	Full-Face Negative Pressure	Hycar	50	Qualitative or Quantitative*	500	Quik Chek I Adapter #802710	N/A	S (471681), M (465425), L (471682)	OHD P/N 9513-0130
Ultravue for use with ¼ turn quick disconnect	Full-Face Negative Pressure	Hycar or Silicone	50	Qualitative or Quantitative*	500	Quik Chek IV Adapter #817446	N/A	N/A	OHD P/N 9513-0130
Ultra-Elite	Full-Face Negative Pressure	Silicone	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078	N/A	S (813211), M (813209), L (813213)	OHD P/N 9513-0210
Ultra-Elite	Full-Face Negative Pressure	Hycar	50	Qualitative or Quantitative*	500	Quik Chek III Adapter #805078	N/A	S (813210), M (813208), L (813212)	OHD P/N 9513-0210
Ultra-Elite for use with ¼ turn quick disconnect	Full-Face Negative Pressure	Hycar or Silicone	50	Qualitative or Quantitative*	500	Quik Chek IV Adapter #817446	N/A	N/A	OHD P/N 9513-0210
Millennium Facepiece	Full-Face Negative Pressure	Hycar	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	Silicone	10,000 SCBA 1000 Air-Line	Qualitative or Quantitative	500†	APR Fit Test Adapter Kit, ¼ turn #10107257 (10029823 APR adapter only) 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 Pressure-Demand	Full-Face Positive Pressure	Hycar	10,000 SCBA 1000 Air-Line	Qualitative or Quantitative	500†	APR Fit Test Adapter Kit, ¼ Turn #10107257 APR Fit Test Adapter Kit, Slide Version #10107229 APR Fit Test Adapter Kit, Push-to-Connect #10107256 Quik Chek Adapter Kit, Firehawk #10044576‡	Bayonet	Negative Pressure S (813210), M (813218), L (813212)	OHD P/N 9513-0210
Ultra Elite Respirator	Full-Face Positive/Negative Pressure	Hycar	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.

† 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.

± MSA recommends a fit factor of 2000 if the application is a CBRN environment.

‡ 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) and OptimAir MM2K PAPR with Type HE OptiFilter® XL Filter

- Lightweight, compact design for long-life, high-performance and low maintenance
- Sealed, water-resistant battery fits inside most pockets
- Dual-rate charger recharges fully discharged battery in less than three hours
- Water-resistant HEPA filter for protection against particulate contaminants
- Facepiece, motor/blower and filter combine to produce high air flow
- Constant air flow also cools user's face
- Warranty:
 - OptimAir Mask-Mounted PAPR: two-year
 - OptimAir MM2K PAPR: one-year



OPTIMAIR MASK-MOUNTED PAPR KITS



OPTIMAIR MM2K 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	Small	Medium	Large	
		With rubber head harness			10095181	10095182	10095183	10034152	10034150	10034151
	With European-style Head Harness			10095184	10095185	10095186	10034155	10034153	10034154	
ADVANTAGE 4100 PAPR	Material			Small	Medium	Large	Small	Medium	Large	
		Black silicone with rubber harness			10095193	10095189	10095197	10084547	10084543	10084551
		Black Hycar rubber with rubber harness			10095194	10095190	10095198	10084548	10084544	10084552
		Black silicone with net harness			10095191	10095187	10095195	10084545	10084541	10084549
	Black Hycar rubber with net harness			10095192	10095188	10095196	10084546	10084542	10084550	
PARTS AND ACCESSORIES	Description			Part No.			Part No.			
		Battery pack			10095162			10023480		
		Motor/blower, w/o cable			10095163			10023481		
		Cable			10095164			10023482		
		Charger			10095165			10023483		

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
	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
	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
	Hycar rubber head harness			493064	493020	493108

	Description	Part No.
OTHER ACCESSORIES	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

Waist Belts for OptimAir Mask-Mounted and MM2K PAPRs

PVC belt with slide-through friction buckle is comfortable and easy to decontaminate

- **Standard**—P/N 473902 clear polyvinylchloride (PVC) support belt, 52 inches long (for waist sizes of up to 48 inches)
- **Optional**—P/N 492827 polyurethane-coated nylon belt, 67 inches long
- **No-decon applications**—P/N 9961 uncoated nylon web waist belt

	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

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 standard battery	10081114
	OptimAir TL Kit with long-life battery	10081115
OPTIMAIR TL KITS <i>for hoods</i>	OptimAir TL Kit with standard battery	10081116
	OptimAir TL Kit with long-life battery	10081117

		Small	Medium	Large
ADVANTAGE 3100 FACEPIECE ONLY <i>single-port</i>	Advantage 3100, black silicone, with rubber head harness	10028999	10028998	10029000
	Advantage 3100, black hycar, with European-style 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 polyester net head harness	10083796	10083792	10083800
	Advantage 4100, black silicone, with rubber head harness	10083798	10083794	10083802
	Advantage 4100, black silicone, with Kevlar net head harness	10108575	10108573	10108577
	Advantage 4100, black hycar, with polyester net head harness	10083797	10083793	10083801
	Advantage 4100, black hycar, with rubber head harness	10083799	10083795	10083803
	Advantage 4100, black hycar, with Kevlar net head harness	10108576	10108574	10108578
ULTRA ELITE FACEPIECE ONLY <i>single-port</i>	Ultra Elite, black silicone, with rubber head harness	493072	493028	493116
	Ultra Elite, black hycar, with rubber 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 (white) 10095748 (yellow)	10095743 (white) 10095749 (yellow)	
HOODS, 4-PACK, STANDARD, WITH SUSPENSION	10083383	10083384	
HOODS, 20-PACK, STANDARD, LESS SUSPENSION	10095740	10095744	
	Tychem SL (Saranex-coated Tyvek)		
HOODS, 4-PACK, THREADED CONNECTOR, WITH SUSPENSION	10083381	10083382	
HOODS, 20-PACK, THREADED CONNECTOR, LESS SUSPENSION	10095741	10095745	
HOODS, 4-PACK, STANDARD, WITH SUSPENSION	10083385	10083386	
HOODS, 20-PACK, STANDARD, LESS SUSPENSION	10095742	10095746	

OptimAir TL Powered Air-Purifying Respirator

	Description	Part No.
HOOD SUSPENSIONS	20-pack	10103864
	1 each	10078469
HOODS FOR USE WITH OPTIMAIR 6A PAPR	Single-bib, 20-pack, 6A connector, w/suspension	10095747
	Single-bib, 4-pack, 6A connector, w/suspension	10084820
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	P100 cartridge (6-pack)	10080455
	P100 cartridge (54-pack)	10154877
	OV/AG P100 cartridge (6-pack)	10080454
	AG, AM, FM, P100 cartridge (6-pack)	10080456
	Spark Guard cartridge cover (single unit) (2 req.)	10068152

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

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

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

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 Ultravue and Ultra Twin Facepieces; with cover lens, less filter plate	472859
	Clip-On Welder's Adapter for Ultra Elite Facepiece; with cover lens, less filter plate	806482
	Clip-On Welder's Adapter for Advantage 4200 Twin-Port Facepiece; with cover lens, less filter plate	10077063
	Clip-On Welder's Adapter for Advantage 4100 Single-Port Facepiece; with cover lens, less filter plate	10065326
ACCESSORIES	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 rubber head harness
	10031343	10031342	10031344	Advantage 3100 Facepiece, with European-style head harness
ADVANTAGE 4100 SINGLE-PORT FACEPIECES	10083796	10083792	10083800	Advantage 4100 Facepiece, black silicone, with polyester net head harness
	10083797	10083793	10083801	Advantage 4100 Facepiece, black hycar, with polyester net head harness
ULTRAVUE FACEPIECES	480251	480247	480255	Ultravue Facepiece, black silicone
	471218	457126	471230	Ultravue Facepiece, black hycar
ULTRA ELITE FACEPIECES	493072	493028	493116	Ultra Elite Facepiece, black silicone
	493064	493020	493108	Ultra Elite Facepiece, black hycar

REPLACEMENT CANISTERS	Single Canister	Color Coding	
	10059903*		Phosphine/Ammonia/Chlorine/P100 Canister (PH/AM/CL) <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

	Small	Medium	Large	
MILLENNIUM CBRN/ RIOT CONTROL GAS MASK	10051286	10051287	10051288	Millennium Gas Mask, with noseclip, 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, noseclip, and identification tag <i>NOTE: the Advantage 1000 Riot Control Mask is NOT CBRN approved and uses Riot Control canisters only.</i>
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 RC canisters, box of 6
	817590	Advantage 1000 RC canisters, box of 6
CBRN CANISTER	10046570	CBRN canister, for Millennium and Ultra Elite Facepieces
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



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 ₂ Battery
	B-60141-036	Responder CBRN PAPR Kit with 36" Breathing Tube, LiSO ₂ Battery
	B-60170-030	Responder CBRN PAPR Kit with 30" Breathing Tube, NiMH Battery
	B-60170-036	Responder CBRN PAPR Kit with 36" Breathing Tube, NiMH Battery

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 ₂ 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
- EN 403:2004 approved
- Wide field of view lens and highly visible yellow hood
- Heat-resistant against brief flame contact and elevated temperatures



Wall box

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

W65 Self-Rescuer Respirator for Mining Applications

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



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

Miner's Support System and Multipurpose Pouch

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

For more complete information, see Bulletin 0115-03.



Other MSA Products for Mining Applications

For miner's cap lamp, see p. 80.

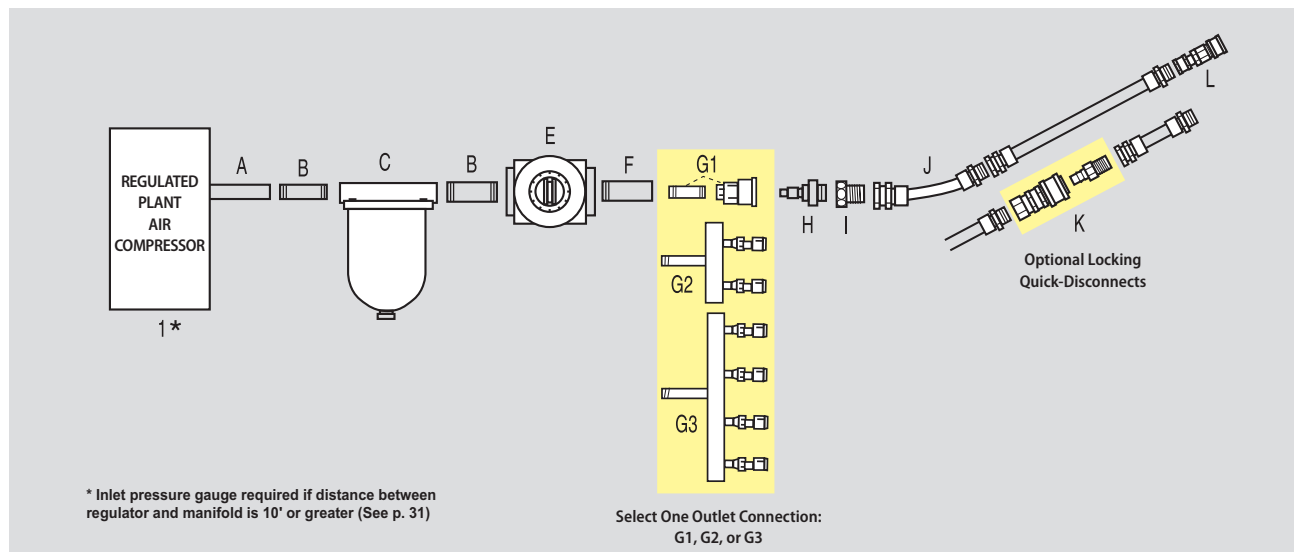
For miner's portable gas detector, see p. 58.

MINER'S SUPPORT SYSTEM	696757	Miner's support system, small (28–34)
	696758	Miner's support system, medium (34–44)
	696759	Miner's support system, large (44–52)
MULTIPURPOSE MINER'S POUCH	803100	Multipurpose miner's pouch
	804655	Multipurpose miner's pouch with hook and loop closure

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

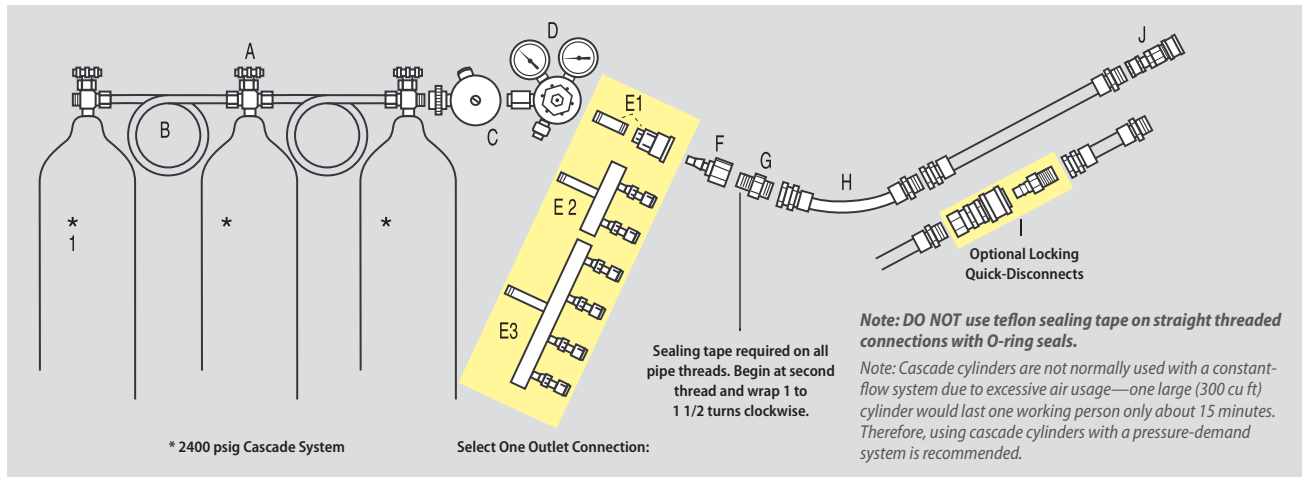


1	PLANT AIR COMPRESSOR	not supplied by MSA
A	OUTLET FITTING FOR SYSTEM	Varies with system
B	NIPPLE	(1/2" x 1/2" x 1-1/2" NPT) P/N 68833
C	AIR LINE FILTER	P/N 81857
E	PRESSURE REGULATOR	P/N 66716
F	OUTLET CONNECTIONS	Bushing (1/2" M x 1/4" F) P/N 625528
G1	FEMALE SOCKET NIPPLE	Female Socket—P/N varies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

H	MALE PLUG WITH MALE 1/4" NPT	(See p. 29—column 4)
I	UNION ADAPTER	(See p. 29—column 3)
J	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 31)
K	OPTIONAL LOCKING QUICK-DISCONNECT ASSEMBLIES for interconnecting lengths of MSA air-supply hose	CEJN Locking Quick-Disconnect Assembly (Chrome) P/N 479009 Snap-Tite Locking Quick-Disconnect Assembly (Aluminum) P/N 479010
L	FEMALE SOCKET ASSEMBLY	P/N varies with type (See p. 29—column 5)

Air-Line Systems

Typical Cascade Cylinder Air-Line Systems: Pressure Demand System



1	AIR CYLINDER	not supplied by MSA
A	AIR TEE BLOCK	P/N 68850 or P/N 10081206 (See p. 31)
B	AIR PIGTAIL	P/N 68851 or P/N 10081205 (See p. 31)
C	AUDI-LARM WARNING DEVICE	P/N 85078 or P/N 492307 (See p. 31)
D	AIR CYLINDER PRESSURE REGULATOR	P/N 68858 or P/N 633352 (See p. 31)
E1	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
E2	2-OUTLET MANIFOLD	Foster Steel P/N 84416 Snap-Tite Aluminum P/N 486053 (See p. 31)
E3	4-OUTLET MANIFOLD	Foster Steel P/N 47370 Snap-Tite Aluminum P/N 93931 (See p. 31)

F	MALE PLUG WITH FEMALE 1/4" NPT	P/N varies with type (See p. 29)
G	UNION ADAPTER	(See p. 29)
H	MSA AIR-SUPPLY HOSE	P/N varies with type (See p. 31)
I	OPTIONAL LOCKING QUICK-DISCONNECT ASSEMBLIES for interconnecting lengths of MSA air-supply hose	CEJN Locking Quick-Disconnect Assembly (Chrome) P/N 479009 Snap-Tite Locking Quick-Disconnect Assembly (Aluminum) P/N 479010 (See p. 29)
J	FEMALE SOCKET ASSEMBLY	P/N varies with type (See p. 29)

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.

CONSTANT FLOW AIR-LINE RESPIRATOR KITS	10108494	Constant Flow Air-Line Respirator, LOW pressure control valve, black body
	10108593	Constant Flow Air-Line Respirator, HIGH pressure control valve, gold body

						
	Advantage 4100 Facepiece	Ultra Elite Facepiece	Ultravue Facepiece	Comfo Facepiece	Welder's Comfo Facepiece	Quick-disconnect
CONSTANT FLOW COMPLETE ASSEMBLIES <i>High-pressure control valve (35–40 psig inlet pressure for 8–300 ft. of hose)</i>	10088132	810829	460863	460865	460862	Snap-Tite aluminum
	10088134	810831	461717	480466	480600	Foster steel
	10088136	†	486258	†	†	Hansen brass
	10088135	810832	480629	480631	480671	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	806775	463300	463302	463281	Snap-Tite aluminum
	10088109	806776	480472	480474	480468	Foster steel
	10088121	806779	484836	484837	†	Hansen brass
	10088110	806777	480637	480639	480645	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.

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

Duo-Twin™ Respirators

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



Duo-Twin Respirator with Advantage 4000 Facepiece

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

DUO-TWIN RESPIRATOR COMPLETE ASSEMBLIES	10091873	Constant-Flow Duo-Twin Respirator with Advantage 4200 Facepiece Uses Advantage Respirator Cartridges listed on p. 6
	490143	Constant-Flow Duo-Twin Respirator with Ultravue Facepiece 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 Advantage 4000 Facepiece Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12" untempered glass cover lenses per cartridge), breathing tube (470734), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi. <i>Order air-supply hose separately.</i>
COMPLETE ASSEMBLIES WITH DUO-FLO CONSTANT FLOW ADVANTAGE 4000 FACEPIECE	10116961	10116962	Abrasi-Blast Respirator with Duo-Flo Constant-Flow Advantage 4000 Facepiece Includes hood, medium facepiece with net head harness (10089910), lens housing, one lens cartridge (three 0.12" untempered glass cover lenses per cartridge), breathing tube (457158), web belt (9961), and adjustable valve connector with Snap-Tite (AL) socket assembly. Flow-control device: 35–40 psi.
COMPLETE ASSEMBLIES WITH ULTRAVUE FACEPIECE <i>Assemblies can be specially ordered with different options</i>	468716	468720	Abrasi-Blast Respirator with Ultravue Facepiece Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. Inlet Pressure Range: 10–15 psi.
	468718	468722	Abrasi-Blast Respirator with Ultravue Facepiece Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. Inlet Pressure Range: 35–40 psi.
	478116	478117	Abrasi-Blast Respirator with Ultravue Facepiece Includes hypalon hood with collar, medium facepiece with dual exhalation valves, lens housing, one lens cartridge (four 0.06-inch untempered glass cover lenses), breathing tube, web belt, flow control device with Snap-Tite (AL) quick-disconnect fitting. Abrasi-Blast Duo-Flo.

LENS CARTRIDGES <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.



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

PremAire Cadet Respirator Assemblies

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

Facepieces for PremAire Cadet and PremAire Cadet Escape Respirators

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



	Small	Medium	Large	
ULTRA ELITE FACEPIECES	10037650	10037648	10037652	hycar, rubber head harness, nose cup
	10043417	10043413	10043431	silicone, rubber head harness, nose cup
Push-To-Connect Adapter	10043419	10043415	10043433	hycar, Speed-ON head harness, nose cup
	10043430	10043416	10043434	silicone, Speed-ON 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	
ADVANTAGE 4000 FACEPIECES	10075911	10075905	10075917	hycar, rubber head harness, nose cup
	10075910	10075904	10075916	silicone, rubber head harness, nose cup
Push-To-Connect Adapter	10075915	10075909	10075921	hycar, polyester net head harness, nose cup
	10075914	10075908	10075920	silicone, polyester net head harness, nose cup
	10108547	10108561	10108565	hycar, Kevlar net head harness, nose cup
	10108545	10108549	10108563	silicone, Kevlar net 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, 5-minute aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug
	10108592	PremAire Cadet Escape Air-Line Respirator, 10-minute aluminum egress cylinder, with Hansen brass quick-disconnects, 50-foot section of neoprene air-supply hose with Hansen brass plug

PremAire Cadet Escape Respirators

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

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/>

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 <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 Firehawk, Push-To-Connect, solid cover C Firehawk, Slide-To-Connect, solid cover <i>Firehawk slide regulators are not compatible with Advantage 4000 Facepiece</i>	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 <i>Nosecup standard with Advantage 4000 Facepiece</i>	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	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		
	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								
	A- PCG								

G1 PremAire Cadet Escape Respirators

PREMAIRE CADET ESCAPE RESPIRATORS	Part Number	Description
	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 noseclip 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, noseclip
	10075910	10075904	10075916	silicone, rubber head harness, noseclip
	10075915	10075909	10075921	hycar, polyester net head harness, noseclip
	10075914	10075908	10075920	silicone, polyester net head harness, noseclip
ULTRA ELITE FACEPIECES for Firehawk PTC MMR Regulator	10037650	10037648	10037652	hycar, rubber head harness, noseclip
	10043417	10043413	10043431	silicone, rubber head harness, noseclip
	10037651	10037649	10037653	hycar, EZ-Don Head Harness, noseclip
	10043418	10043414	10043432	silicone, EZ-Don Head Harness, noseclip
	10043419	10043415	10043433	hycar, Speed-ON Head Harness, noseclip
	10043430	10043416	10043434	silicone, Speed-ON Head Harness, noseclip
ULTRA ELITE FACEPIECES for Firehawk STC MMR Regulator	—	10039982	—	hycar, rubber head harness, noseclip
	—	10039983	—	silicone, rubber head harness, noseclip

PremAire System Upgrades

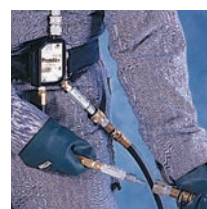
ESCAPE CYLINDER KITS Includes carrier assembly, 1st-stage regulator, hose and cylinder	800696	Kit with fully-wound carbon fiber, 5-minute cylinder, for right hip
	800694	Kit with fully-wound carbon fiber, 5-minute cylinder, for left hip
	800697	Kit with fully-wound carbon fiber, 10-minute cylinder, for 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
INDUSTRIAL AIR CART	10107537	10107779	10107780	10107811

The TransportAire™ System

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

For more complete information, see Bulletin 0114-21.



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

Cylinders

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

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

Air-Line Accessories

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

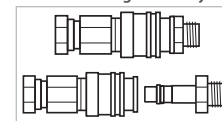
AL-Aluminum; S-Steel; SST-Stainless Steel; BR-Brass

QUICK-DISCONNECT TYPE	Interchangeability*	1 Female Socket 1/4" NPT	2 Male Plug w/Female 1/4" NPT	3 Union Adapter 1/4" NPT x 3/4" UNF	4 Male Plug w/Male 1/4" NPT (used when connecting Inlet Pressure Gauge)	5* 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

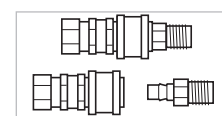
CEJN LOCKING	479009	CEJN Locking Quick-Disconnect Assembly, Socket and Plug (Chrome)
	476956	CEJN Locking Female Quick-Disconnect Socket (Chrome)
	476955	CEJN Locking Male (w/ Male 3/4" NPT) Quick-Disconnect Plug (Chrome)
SNAP-TITE LOCKING	479010	Snap-Tite Locking Quick-Disconnect Assembly, Socket and 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	Part Number	Description
	10108138	Upright support bracket, 50 and 100 CFM units
	10107741	Remote audible alarm with mounted visual strobe and guard, includes 50 ft. cable and 9-12 VDC
	10107527	Calibration Kit (for U.S. models), 20 ppm CO, zero air, regulator and case, 17-liter size
	10107526	Calibration Kit (for Canadian models), 10 ppm CO, zero air, regulator and case, 17-liter size
	10116617	Calibration Gas, 20 ppm CO
	10116618	Calibration Gas, 10 ppm CO
	10116619	Calibration Gas, 0 ppm CO
BREATHING AIR DISTRIBUTION SUPPLY HOSES FOR INLET PORTS <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

- 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



	With union adapters	With Snap-Tite aluminum quick-disconnects	With Foster steel quick-disconnects	With Hansen brass quick-disconnects
FILTRATION BOXES 50 CFM	10107538	10107814	10107812	10107813
FILTRATION BOXES 100 CFM	10107539	10107816	10107817	10107815

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 ¹	—	8 ft
	491514 ¹	—	15 ft
	491515 ¹	—	25 ft
	474043 ¹	—	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



PRESSURE REGULATOR	66716	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
MANIFOLDS 4-outlet	47370	93931	488914
MANIFOLDS 2-outlet	84416	486053	84418

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 ²	

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	

¹Recommended usable length 4–25 ft

²See 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

Custom Air V® Escape Respirators

- Quick-use, hooded emergency respirator for escaping toxic gases, vapors or oxygen deficiency
- Features high flow rate of 72 liters per minute (lpm) and continuous flow of air from compressed air cylinder
- Flexible urethane hood reduces fogging, fits over eyeglasses and facial hair
- Weighs less than 5 pounds and is easy to carry
- 5-minute high-flow cylinder meets stringent air-flow requirements for extremely aerobic escape applications



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

CUSTOM AIR V ESCAPE RESPIRATOR	484353	With fully-wound carbon cylinder
	802197	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

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	Ultra Elite 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 2 Hoop-Wound 3 30' Carbon 4 3AL Aluminum, less air 5 Hoop-Wound, 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	0 None 1 Quick-Fill Shoulder Mounted 2 ExtendAire (EBS) with Dual Quick Connect Shoulder Mounted 3 Quick Fill & ExtendAire (EBS) with Dual Quick Connect	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 <i>Nosecup standard with Adv. 4000 Facepiece</i>	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) <i>Communications not compatible with Advantage 4000 Facepiece</i>	A Pressure Gauge B ICM Tx with Heat Sensor C ICM Tx without heat sensor D ICM TxR with heat sensor E ICM TxR without heat sensor F Pressure Gauge with HUD G ICM Tx with heat sensor with HUD H ICM Tx without heat sensor with HUD J ICM TxR with heat sensor with HUD K ICM TxR without heat sensor 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 Rescue Belt II, w/hook, 50' P Rescue Belt II, w/carabiner, 50' R Rescue Belt II, w/hook, Fire Tech Rope 50' S Rescue 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>Neckstrap not available 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

Note: Standard Rescue Belt fits waist sizes up to 54 inches. Long Rescue Belt fits waist sizes up to 74 inches.



FIND THE HOT SPOTS. AND THE HEARTBEATS.

The MSA G1 SCBA is the first and only SCBA with an integrated thermal imaging camera. Now every firefighter can locate hazardous areas. A victim. A buddy. And the way out.

Find out more (and request a demo) at
msafire.com/breathe

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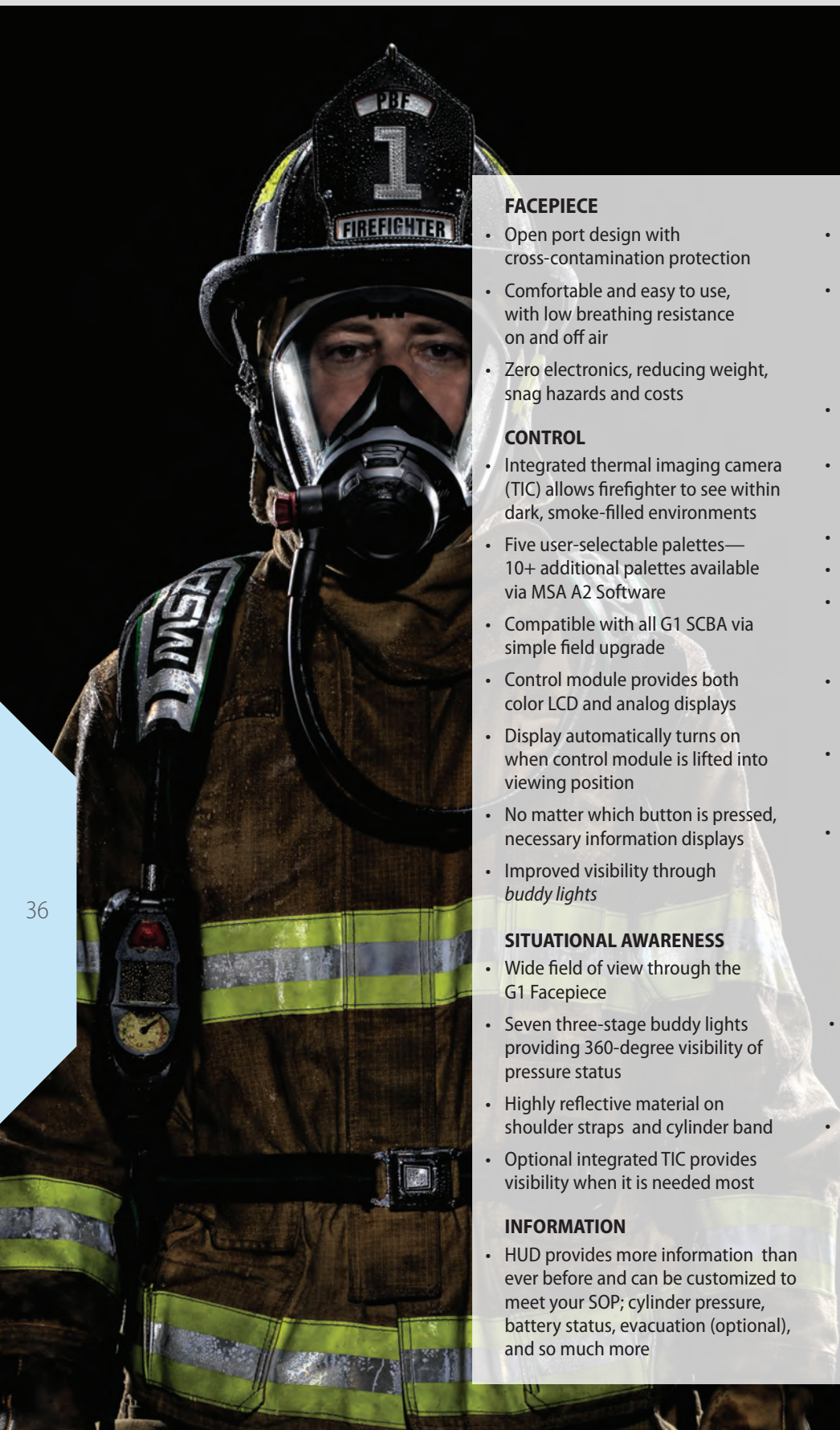
WHEN YOU GO IN,



WE GO IN WITH YOU.

The Safety Company

Self-Contained Breathing Apparatus (SCBA)



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 costs

CONTROL

- Integrated thermal imaging camera (TIC) allows firefighter to see within dark, smoke-filled environments
- Five user-selectable palettes—10+ additional 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

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	J	K	L	QUANTITY
System Pressure	Cylinder Connection	Harness	Cradle Type	Lumbar Type	Regulator Type	Regulator Hose Type	Emergency Breathing Support	Speaker Module	PASS	Battery Type	
2 2216 psig 4 4500 psig	2 CGA threaded remote connection 4 CGA quick-connect remote connection	1 Standard without chest strap 2 Standard with chest strap 3 Serviceable tunnel without chest strap 4 Serviceable tunnel with chest strap	M Metal band	B Basic A Adjustable swiveling lumbar pad 1 Rescue Belt II hook, 50' 2 Rescue Belt II carabiner, 50' 3 Rescue Belt II 50' FireTech rope, hook 4 Rescue Belt II, 50' FireTech rope, carabiner 5 Rescue Belt II, Lightning Hook, 50' FireTech Rope 6 Rescue Belt II, Lightning Hook, 50' Aramid/ Nylon Rope 7 Rescue Belt II, Lightning GT Hook, 50' FireTech Rope 8 Rescue Belt II Lightning GT Hook, 50' Aramid/ Nylon Rope	1 Purge cover left shoulder † 2 Solid cover left shoulder †	C Continuous Q Quick-connect	0 None 1 Waist-mounted Quick-Fill 2 ExtendAire II 3 Waist-mounted Quick-Fill and ExtendAire II 5 Waist-mounted Quick-Fill with hose and pouch 7 Waist-mounted Quick-Fill with hose and pouch, ExtendAire II A Pouch only	L Left chest †	A PASS right shoulder † C PASS telemetry right shoulder † E PASS Right Shoulder w/ Integrated TIC † G Pass Telemetry Right Shoulder w/ Integrated TIC †	A Alkaline R Rechargeable* <i>If telemetry is ordered, R must be selected.</i>	
A-G1FS											

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

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



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

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 ¹	Threaded	10156424-SP	10156433-SP
4500 psig	45-minute	Threaded	10156425-SP	10156434-SP
4500 psig	60-minute	Threaded	10156426-SP	10156435-SP



Threaded remote connection

NOTE: quick-connect cylinder adapter must be ordered for each cylinder separately. See p. 39 for quick-connect cylinder adapter part number.
¹Low 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 ²	Quick-connect	10175708	10175713
4500 psig	45-minute	Quick-connect	10175709	10175714
4500 psig	60-minute	Quick-connect	10175710	10175715



Quick-connect remote connection

²Low profile version of the 45-minute, 4500 psig cylinder

MSA G1 SCBA Cylinders for 5500 psig System

Cylinder Pressure	Cylinder Duration	Connection Type	Air	Less Air
5500 psig	30-minute	Remote	10156427-SP	10156436-SP
5500 psig	45-minute	Remote	10156428-SP	10156437-SP
5500 psig	60-minute	Remote	10156429-SP	10156438-SP

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	APR adapter
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

Rescue Belt II System

Rope	Connectors			
				
	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

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



Rechargeable battery packs in battery charging station

Self-Contained Breathing Apparatus (SCBA)

FireHawk® M7XT Air Mask

- Durability and performance for critical life-safety personnel
- Compliant to NFPA 1981 and 1982 2013-edition standards



Hi-Viz™ Luminescent cylinder band

FireHawk M7XT Control Module with accelerometer motion sensor, digital and mechanical pressure display time remaining and thermal alarm

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

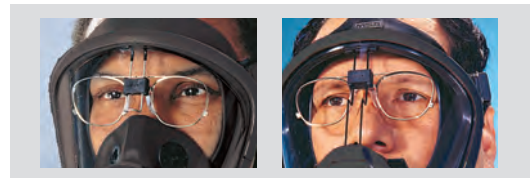
Ultra Elite APR Adapter



- 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

Self-Contained Breathing Apparatus (SCBA)

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 and M7	10119370	With 50-ft. aramid/nylon rope and carabiner
Air Mask Models	10119391	With 50-ft. FireTech 32 rope and Crosby hook
	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.

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

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.

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 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/JOBCOM	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

HELMET MICROPHONE ASSEMBLY	10042902	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

PARTS AND ACCESSORIES	10046087	Dust cover
	10046123	Guard ring, tall
	10046122	Guard ring, short
	10046120	Belt clip assembly
	10046121	O-ring, single-pin connector
	10045778	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.



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.

ACCOUNTABILITY SYSTEM BASE STATION KITS	10072240	Accountability Base Station Kit (includes software, magnetic antenna kit, USB cable, wall-mount cable, and 8-24 volt power cable)
	10098767	Accountability Base Station Kit (includes software, fixed antenna kit, USB cable, wall-mount cable, and 8-24 volt power cable)
ACCOUNTABILITY SYSTEM for MSA G1 SCBA and FireHawk M7XT/M7 SCBA	10083876	G1/M7XT/M7 Control Module reader / G1/M7XT/M7 ID tag writer
	10083875	G1/M7XT/M7 ID tags
	10075756	Antenna Kit with magnetic base
	10098766	Antenna Kit with fixed base
	10063880	USB cable
	10049410	8-24 volt, power cable
	10047342	Wall-mount power cable

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.



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 For MSA G1 SCBA	10156467	Replacement Quick-Fill pouch for MSA G1 SCBA
	10156468	3-ft. Quick-Fill hose in pouch for MSA G1 SCBA
	10156465	Waist-mounted Quick-Fill for MSA G1 SCBA
QUICK-FILL SYSTEM REPLACEMENT PARTS For M7XT and M7 SCBA	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 ExtendAire 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

	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.



ExtendAire™ II System

MSA G1 ExtendAire 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 ExtendAire 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 ExtendAire II System is NIOSH-approved and NFPA 1981-2013 edition-compliant.

EXTENDAIRE II SYSTEM	10156464	ExtendAire II System Conversion Kit for G1 SCBA
	10111404	Replacement pouch for G1 ExtendAire II System

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
High-pressure (4500 psig)		
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
Low-pressure (2216 psig)		
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 or 4500 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.	Description
High-pressure (4500 psig)	
10169711	G1 RIT System complete, 4500 psi, facepiece, regulator, 6-ft. Quick-Fill & ExtendAire II Systems, remote gauge, URC
10169713	G1 RIT System complete, 4500 psi, 6-ft. Quick-Fill & ExtendAire II Systems, remote gauge, URC
10169715	G1 RIT System complete, 4500 psi, 6-ft. Quick-Fill & ExtendAire II Systems, URC
10169717	G1 RIT System complete, 4500 psi, ExtendAire II System
Low-pressure (2216 psig)	
10169710	G1 RIT System complete, 2216 psi, facepiece, regulator, 6-ft. Quick-Fill & ExtendAire II Systems, remote gauge, URC
10169712	G1 RIT System complete, 2216 psi, 6-ft. Quick-Fill & ExtendAire II Systems, remote gauge, URC
10169714	G1 RIT System complete, 2216 psi, 6-ft. Quick-Fill & ExtendAire II Systems, URC
10169716	G1 RIT System complete, 2216 psi, ExtendAire II System

Note: This RIT system does NOT include cylinder. Please see cylinder ordering information on p. 38.

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

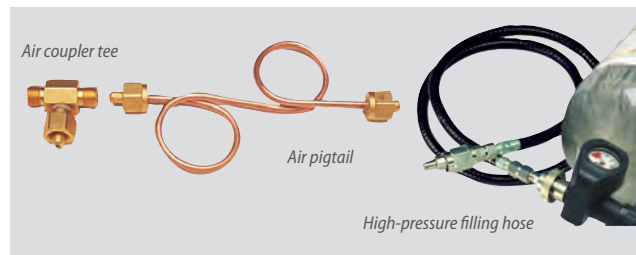
TECHNICAL RESCUE CART	PN	Description
	10107535	Technical Rescue Cart equipped with union adapters
	10107818	Technical Rescue Cart equipped with Snap-Tite aluminum quick-disconnects
	10107820	Technical Rescue Cart equipped with Foster steel quick-disconnects
	10107819	Technical Rescue Cart equipped with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

Cleaning Accessories



CLEANING ACCESSORIES	PN	Description
	10009971	MSA Confidence® Plus 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)

Portable Gas Detection Instruments

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	
INSTRUMENT ONLY KITS			
ALTAIR 5X DETECTOR MONO, (LEL, O ₂ , CO, H ₂ S)	10116924	10115118	
ALTAIR 5X DETECTOR MONO, (LEL, O ₂ , CO, H ₂ S, SO ₂)	10116925	10115119	
ALTAIR 5X DETECTOR COLOR, (LEL, O ₂ , CO, H ₂ S, PID)	10165445		
STANDARD KITS - MONOCHROME DISPLAY, 10-FT SAMPLING LINE, 1-FT PROBE			
ALTAIR 5X DETECTOR MONO, (LEL, O ₂ , CO, H ₂ S)	10116926	10115120	
ALTAIR 5X DETECTOR MONO, (LEL, O ₂ , CO, H ₂ S, SO ₂)	10116927	10115141	
DELUXE KITS - COLOR DISPLAY, 10-FT SAMPLING LINE, 1-FT PROBE			
ALTAIR 5X DETECTOR COLOR, (LEL, O ₂ , CO, H ₂ S)	10116928	10115142	
ALTAIR 5X DETECTOR COLOR, (LEL, O ₂ , CO, H ₂ S, SO ₂)	10116929	10115143	
ALTAIR 5X DETECTOR COLOR, (LEL, O ₂ , CO, H ₂ 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 ₄	0.05% Vol CH ₄
	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 ₂	0-10%Vol	0.01%Vol
	BUTANE, C ₄ H ₁₀	0-25%Vol	0.1%Vol
	METHANE, CH ₄	0-100%Vol	1%Vol
	PROPANE, C ₃ H ₈	0-100%Vol	1%Vol
	PROPANE, C ₃ H ₈	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.

A	INSTRUMENT TYPE	All ALTAIR 5X Multigas Detectors come standard with data logging and MotionAlert and InstantAlert features. Choose your instrument type, equipped with internal pump. The monochrome full-graphic display is standard; a high-resolution crystal-clear color display with logo customization is optional.	Instrument Type Pumped with monochrome display A Pumped with color display B Pumped with color display for PID (unit must be configured with PID sensor) D	Code A B D	Selection
B	COMBUSTIBLE SENSOR	Choose your combustible sensor calibration. To select 0-100% LEL pentane, please choose L ; for 0-5% Vol methane choose M . For no combustible sensor, select 0 for none.	Combustible Sensor Options None 0 LEL 1- 100% pentane L 0-5% Vol methane M	Code 0 L M	Selection
C	SENSOR #1	To have an oxygen sensor installed in your new ALTAIR 5X Multigas Detector, please select K ; if you plan on configuring the ALTAIR 5X Detector with two exotic sensors with CO/H ₂ S, please select 1 for both CO and H ₂ S sensors; for no sensor enter 0 .	Sensor #2 Options None 0 Oxygen 0-30% K CO/H ₂ S 0-1999 ppm & 0-200 ppm 1 CO 0-1999 ppm 2 H ₂ S 0-200 ppm 3 CO/H ₂ S-LC 0-1999 ppm & 0-99.9 ppm 4 CO-HC 0-10,000 ppm 5 CO/NO ₂ 0-1999 ppm & 50 ppm 6 CO H ₂ -ResH ₂ S 0-1999 ppm & 0-200 ppm 7	Code 0 K 1 2 3 4 5 6 7	Selection
D	SENSOR #2	Choose your toxic gas sensor.	Sensor #3 Options None 0 SO ₂ 0-20 ppm A Cl ₂ 0-10 ppm B NO ₂ 0-20 ppm C NH ₃ 0-100 ppm D PH ₃ 0-5 ppm E HCN 0-30 ppm F ClO ₂ 0-1 ppm G NO 0-200 ppm H	Code 0 A B C D E F G H	Selection
E	SENSOR #3	Choose your additional toxic gas sensors.	Sensor #4 Options None 0 CO/H ₂ S 0-1999 ppm & 0-200 ppm 1 CO 0-1999 ppm 2 H ₂ S 0-200 ppm 3 CO/H ₂ S-LC 0-1999 ppm & 0-99.9 ppm 4 CO-HC 0-10,000 ppm 5 CO/NO ₂ 0-1999 ppm & 50 ppm 6 CO H ₂ -ResH ₂ S 0-1999 ppm & 0-200 ppm 7 SO ₂ 0-20 ppm A Cl ₂ 0-10 ppm B NH ₃ 0-100 ppm D H ₂ S 0-200ppm 3 H ₂ S-LC 0-100ppm 4	Code 0 1 2 3 4 5 6 7 A B D 3 4	Selection
F	ADVANCED SENSOR	Add your advanced IR or PID sensor to complete your sensor suite in the ALTAIR 5X Multigas Detector. Combustible sensors are not available with CSA performance approvals.	Advanced Sensor Options None 0 10.6eV 0-2000 ppm 1 10.6eV 0-10,000ppm 2 CO ₂ 0-10% Vol B Methane 0-100% Vol L Methane 0-100% LEL M Propane 0-100% Vol F Propane 0-100% LEL P	Code 0 1 2 B L M F P	Selection

ALTAIR 5X Multigas Detector with PID option

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

G	PACKAGING	For an economy plastic carrying case, choose E ; for red, choose R ; for standard carton packaging, choose 0 .	Packaging Options Standard carton Economy plastic Red economy	Code 0 E R	Selection
H	APPROVAL LABEL	Choose the applicable approval label for your area. For North America, choose C , for Europe choose E , for Australia, choose A .	Approval Label Options NORTH AMERICA UL only <i>(catalytic combustible sensor not required)</i> Europe ATEX Australia	Code C T E A	Selection
I	LOGO EXPRESS® SERVICE	Upon startup, the ALTAIR 5X Multigas Detector can display your company logo or other information. Be sure to select color display for this option. To add your company logo, choose L and upload your logo to the web address which will be sent automatically to you via email. Your order with customized logo cannot be processed without uploading your logo.	Logo Express® Service Options None Logo Express Service	Code 0 L	Selection
J	SAMPLING LINE AND PROBE KIT	MSA's quality sampling lines and probes are durable, easy to use and offer high speed and convenience using our quick-connect fittings. If you are sampling Cl ₂ , ClO ₂ and/or NH ₃ , please select option 2 ; for all other gases select options A or 1 . Options 1 and 2 come with quick disconnect sampling lines and probes. For no sampling line or probe, select 0 .	Sampling Line and Probe Kit Options 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>	Code 0 S 1 2	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 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  
- 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 ₂ , CO, H ₂ S (CHARCOAL)	10178557
	LEL, O ₂ , CO, H ₂ S (GLOW)	10178558
	LEL, O ₂ , CO, H ₂ S (GLOBAL CHARGER & CHARCOAL)	10178560
	LEL, O ₂ , CO, H ₂ S (GLOBAL CHARGER & GLOW)	10178571
	LEL, O ₂ , CO, H ₂ S-LC (CHARCOAL)	10178572
	LEL, O ₂ , CO-H ₂ , H ₂ S (CHARCOAL)	10179330
	LEL, O ₂ , CO (CHARCOAL)	10178566
	LEL, O ₂ , CO (GLOW)	10178567
	LEL, O ₂ (CHARCOAL)	10178568
	LEL, O ₂ (GLOW)	10178559
CERTIFICATIONS/APPROVALS		
USA	Class I, Division 1, Groups A, B, C & D Class II, Division 1, Groups E, F & G Class III, Division 1 Ambient temperature: -40°C to +60°C; T4	
CANADA	CAN/CSA C22.2 No. 152 Combustible Gas Detection Instruments Gas Detection Instruments C22.2 No. 152 Performance Ambient Temperature: -20°C to +54°C; T4 C22.2 No. 157 Intrinsic Safety Ambient Temperature: -40°C to +54°C; T4	

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

A-ALT4XR-

ALTAIR 4X Multigas Detector

- Dependable multigas detector tests for LEL, O₂, CO, H₂S and NO₂
- Economical construction saves users more than 50% on calibration gas, replacement sensors and maintenance
- Four-year sensor life means detector lasts 60% longer than the industry average
- 24-hour run time exceeds the industry average by 71%
- Unit uses 50% less calibration gas per minute than the average detectors within the industry
- Two-tox CO/H₂S sensor removes practically all cross-channel interference
- Large buttons and high-contrast screen make operation easy in low-light conditions
- Ribbed rubber housing provides secure grip and high durability—unit is designed to withstand a drop of up to 20 ft
- Unit features 95+ db alarm and ultra-bright LEDs
- Exclusive end-of-sensor warning cautions user when unit's sensor must be changed
- MotionAlert option tells others that user has become immobile
- InstantAlert provides manual alarm to alert others of a dangerous situation


ALTAIR 4X Multigas Detectors listed below come with North American approval, quick-start card, data logging, charger, calibration cap and tubing, CD manual. MotionAlert feature comes standard on all detectors.

ALTAIR® 4X MULTIGAS DETECTORS	DESCRIPTION	N. AM. PART NO.
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO, H ₂ S) CHARCOAL	10107602
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO, H ₂ S-LC) CHARCOAL	10148343
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO) CHARCOAL	10110443
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO-HC, H ₂ S) CHARCOAL	10182034
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂) CHARCOAL	10110444
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO, H ₂ S) PHOSPHORESCENT	10107603
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂ , CO) PHOSPHORESCENT	10110445
	ALTAIR 4X MULTIGAS DETECTOR (LEL, O ₂) PHOSPHORESCENT	10110446
	SPECIFICATIONS	
Gas Type	Range	Resolution
LEL	0–100% LEL	1% LEL
O ₂	0–30% vol	0.1% vol
CO	0–1999 ppm	1 ppm
H ₂ S	0–200 ppm	1 ppm

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 ₄ , O ₂ , CO) Charcoal	10125912
	ALTAIR 4X MULTIGAS DETECTOR (CH ₄ , O ₂ , CO) Phosphorescent	10125913
	ALTAIR 4X MULTIGAS DETECTOR (CH ₄ , O ₂ , CO, NO ₂) Charcoal	10125914
	ALTAIR 4X MULTIGAS DETECTOR (CH ₄ , O ₂ , CO, NO ₂) Phosphorescent	10125915
	REPLACEMENT SENSORS	PART NO.
	KIT, XCell EX-M COMBUSTIBLE SENSOR	10121212
	KIT, XCell O ₂ SENSOR	10106729
	KIT, XCell CO/H ₂ S TWO-TOX SENSOR	10106725
	KIT, XCell CO/NO ₂ 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 miner's cap lamp, see p. 80.*
- For self-rescuer respirator, see p. 17.*
- For miner's support system and multipurpose pouch, see p. 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.

A	INSTRUMENT TYPE	The ALTAIR 4X Multigas Detector now comes standard with MSA's new XCell Sensors and MotionAlert feature to indicate "man down". Please select your instrument's case color; select option C for charcoal and option G for phosphorescent (glow-in-the-dark).	Instrument Type Charcoal Phosphorescent (glow-in-the-dark)	Code C G	Selection
B	COMBUSTIBLE SENSOR	To have a combustible sensor installed in your new ALTAIR 4X Multigas Detector, please select C . For no combustible sensor, please select 0 .	Combustible Sensor Options None 0-5% Vol methane	Code 0 C	Selection
C	OXYGEN SENSOR	To have an oxygen sensor installed in your new ALTAIR 4X Multigas Detector, please select 1 . For no sensor, enter 0 .	Oxygen Sensor Options None 0-30% Vol	Code 0 1	Selection
D	TOXIC SENSOR	To configure your new ALTAIR 4X Multigas Detector, choose 0 for no toxic sensor. Choose A for both CO and H ₂ S sensors, choose B for CO, C for H ₂ S, D for CO and NO _x , and E for NO _x .	Toxic Sensor Options None 0-1999 ppm CO and 0-200 ppm H ₂ S 0-1999 ppm CO 0-200 ppm H ₂ S 0-1999 ppm CO and 0-50 ppm NO _x 0-50 ppm NO _x	Code 0 A B C D E	Selection
E	POWER SUPPLY	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.	Power Supply Options None North American North American with cradle	Code 0 N M	Selection
F	APPROVAL LABEL	The ALTAIR 4X Multigas Detector is fully approved by MSHA.	Approval Label Options MSHA	Code M	Selection M
G	EXTENDED WARRANTY	MSA includes a full 3-year warranty on the ALTAIR 4X Multigas Detector, including sensors, battery and electronics. Choose 1 for an additional year (4 years total).	Extended Warranty Options 3 years standard warranty Extended warranty (4 years total)	Code 0 1	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 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 ₂ , ClO ₂ , NH ₃)	10114950
MAINTENANCE KIT PID/IR (CL ₂ , ClO ₂ , NH ₃)	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 ₂ /NH ₃ /ClO ₂ 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 ₂ S, 15% O ₂ , 1.45% CH ₄	10045035
58L RP, 60 PPM CO, 20 PPM H ₂ S, 15% O ₂ , 1.45% CH ₄ , 2.5% CO ₂	10103262
58L RP, 60 PPM CO, 20 PPM H ₂ S, 15% O ₂ , 1.45% CH ₄ , 10 PPM SO ₂	10117738
34L ECONO-CAL® CYLINDER, 60 PPM CO, 20 PPM H ₂ S, 15% O ₂ , 1.45% CH ₄	10048280
34L ECONO-CAL CYLINDER, 60 PPM CO, 15% O ₂ , 1.45% CH ₄	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 ₂ SENSOR	10106729
KIT, XCell CO/H ₂ S TWO-TOX SENSOR	10106725
KIT, XCell CO/H ₂ S-LC TWO-TOX SENSOR	10121213
KIT, XCell CO H ₂ -RES/H ₂ S TWO-TOX SENSOR	10121214
KIT, XCell CO-HC SENSOR	10121216
KIT, XCell NO ₂ /CO TWO-TOX SENSOR	10121217
KIT, REPLACEMENT, HCN	10106375
KIT, XCell Cl, SENSOR REPLACEMENT	10106728
KIT, REPLACEMENT, ClO ₂	10080222
KIT, XCell SO ₂ SENSOR REPLACEMENT	10106727
KIT, REPLACEMENT, NO ₂	10080224
KIT, XCell NH ₃ SENSOR REPLACEMENT	10106726
KIT, REPLACEMENT, PH ₃	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 ₂ SENSOR	10106729
KIT, XCELL CO/H ₂ S TWO-TOX SENSOR	10106725
KIT, XCELL CO/H ₂ S-LC TWO-TOX SENSOR	10121213
KIT, XCELL CO H ₂ -RES/H ₂ S TWO-TOX SENSOR	10121214
KIT, XCELL SO ₂ /H ₂ S-LC TWO-TOX SENSOR	10121215
KIT, XCELL NO ₂ /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 ₄ , 15% O ₂ , 60 PPM CO, 20 PPM H ₂ S)	10048280
58L QUAD GAS MIX (1.45% CH ₄ , 15% O ₂ , 60 PPM CO, 20 PPM H ₂ 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

LOW COST OF OWNERSHIP	<ul style="list-style-type: none"> • Fastest sensor response times, lowest calibration gas flow rate on the market • 4-year expected instrument & sensor life • 3-year warranty on instrument & most sensors (2 years on Cl₂, NH₃)
INCREASED SAFETY AWARENESS & REAL-TIME COMPLIANCE	<ul style="list-style-type: none"> • Bump PASS: Green LED flash every 15 seconds, large on-screen checkmark for real-time compliance • Bump FAIL: Red LED flash every 15 seconds, no checkmark • End-of-sensor-life warning and alarm
FULL-TIME TRACEABILITY	<ul style="list-style-type: none"> • Records 75 alarm events and over 100 hours of periodic data, including bump and calibration records • Records can be easily downloaded during periodic gas calibrations using the GALAXY GX2 Automated Test System • MSA Link Pro software provides full networking, traceability, proactive safety, compliance, and testing
RUGGED DURABILITY	<ul style="list-style-type: none"> • Tough over-molded rubber armor • Survives multiple 25-ft drops onto concrete • Agency-certified dust- and water-tight IP67 and intrinsically-safe construction
EASY TO USE	<ul style="list-style-type: none"> • 1-button, gloved hand operation • Large LCD, characters, and status icons

Detector Type (Low, High Alarm in ppm)	Charcoal	Glow-in-the-Dark	Replacement Sensor
ALTAIR 2XP – WITH XCELL PULSE TECHNOLOGY			
H ₂ S-PULSE (10, 15)	10153984	10154188	10121227
ALTAIR 2XT TWO-TOX GAS DETECTOR			
CO/H ₂ S (CO: 25, 100; H ₂ S: 10, 15)	10154040	10154181	10152603
CO-H ₂ /H ₂ S (CO: 25, 100; H ₂ S: 10, 15)	10154071	10154182	10152604
CO/H ₂ S-LC (CO: 25, 100; H ₂ S: 5, 10)	10154072	10154183	10152605
CO/NO ₂ (CO: 25, 100; NO ₂ : 2.5, 5)	10154073	10154184	10152606
SO ₂ /H ₂ S-LC (SO ₂ : 2, 5; H ₂ S: 10, 15)	10153985	10154190	10152607
ALTAIR 2X SINGLE GAS DETECTOR			
CO (25, 100)	10153986	10154185	10152603
CO-H ₂ (25, 100)	10154074	10154186	10152604
CO-HC (25, 100)	10154075	10154187	10152602
H ₂ S-LC (5, 10)	10154076	10154189	10152605
SO ₂ (2, 5)	10154077	10154191	10152607
NO ₂ (2.5, 5)	10154078	10154192	10152606
NH ₃ (25, 50)	10154079	—	10152601
CL ₂ (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
ALTAIR PRO SINGLE-GAS DETECTORS					
OXYGEN (O ₂)	10074137	19.50%	23.00%	N/A	N/A
HYDROGEN CYANIDE (HCN)	10076729	4.5 ppm	10 ppm	10 ppm	4.7 ppm
CHLORINE (Cl ₂)	10076716	0.5 ppm	1.0 ppm	1.0 ppm	0.5 ppm
CHLORINE DIOXIDE (ClO ₂)	10076717	0.1 ppm	0.3 ppm	0.3 ppm	0.1 ppm
NITROGEN DIOXIDE (NO ₂)	10076731	2.0 ppm	5.0 ppm	5.0 ppm	2.0 ppm
PHOSPHINE (PH ₃)	10076735	0.3 ppm	1.0 ppm	1.0 ppm	0.3 ppm
<i>Alternate Set Point Model</i>					
OXYGEN (O ₂)	10076732	18.00%	19.50%	N/A	N/A

ALTAIR Maintenance-Free Single-Gas Detector

- Sensor options for CO, H₂S, and O₂
- 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
ALTAIR PRO SINGLE-GAS DETECTORS			
CARBON MONOXIDE (CO)	10092522	25 ppm	100 ppm
HYDROGEN SULFIDE (H ₂ S)	10092521	10 ppm	15 ppm
OXYGEN (O ₂)	10092523	19.5% Vol	23% Vol
<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 ₂ S)	10071340	10 ppm	20 ppm
HYDROGEN SULFIDE (H ₂ S)	10071361	5 ppm	10 ppm
HYDROGEN SULFIDE (H ₂ S)	10071363	7 ppm	14 ppm
OXYGEN (O ₂)	10071364	19.5% Vol	18% Vol

ALTAIR and ALTAIR Pro Accessories and Parts

ACCESSORIES AND PARTS	Part No.	Description
	467895	Regulator, 0.25 lpm
	10030325	Tubing, 16" (do not use with NH ₃ , Cl ₂ , and ClO ₂)
	10080534	Tubing, 16" Teflon-lined (NH ₃ , Cl ₂ , and ClO ₂)
	10074132	3V CR2 battery – ALTAIR Pro only
	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 ₄ , 15% O ₂ , 60 ppm CO, 20 ppm H ₂ S
	10045035	Calibration gas cylinder (58L) 1.45% CH ₄ , 15% O ₂ , 60 ppm CO, 20 ppm H ₂ S
	10117738	Calibration gas cylinder (58L) 1.45% CH ₄ , 15% O ₂ , 60 ppm CO, 20 ppm H ₂ S, 10 ppm SO ₂
	10098855	Calibration gas cylinder (34L) 1.45% CH ₄ , 15% O ₂ , 60 ppm CO, 20 ppm H ₂ S, 10 ppm SO ₂
	10103262	Calibration gas cylinder (58L) 1.45% CH ₄ , 15% O ₂ , 60 ppm CO, 20 ppm H ₂ S, 2.5% CO ₂
ACCESSORIES	10105756	Electronic cylinder holder
	10125135	Non-electronic cylinder holder
	10127111	4 GB SD card
	10123938	MSA Link Pro Software key
	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.

A	TEST STAND INSTRUMENT TYPE	Each instrument type has a dedicated GALAXY GX2 System test stand. 10 test stands can be banked together in any combination, allowing for ultimate flexibility.	Test Stand Options ALTAIR/ALTAIR Pro/ALTAIR 2X Detector ALTAIR 4/4X Detector ALTAIR 5/5X Detector	Code A B C	Selection
B	ACTIVE CYLINDER PORTS	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.	Calibration Cylinder Options 1 Valve / 1 Cylinder 2 Valves / Up to 2 Cylinders 4 Valves / Up to 4 Cylinders	Code 1 2 4	Selection
C	INSTRUMENT CHARGING	Instrument charging allows for a single instrument to be charged per test stand. Only available on ALTAIR 4/4X and ALTAIR 5/5X Multigas Detector test stands. Choose Yes/1 if you wish to use the "always ready" function of ALTAIR 4X or ALTAIR 5X Detectors.	Test Stand Options No Yes	Code 0 1	Selection
D	SMART CYLINDER HOLDER	Smart cylinder holder provides calibration gas information and gas levels. Information such as part number, gas types, concentrations, expiration date, lot number, and real time pressure levels are automatically set up in the test stand. Smart cylinder holder provides end users with automated, remote warnings as to low or no gas and expired or nearly expired cylinders.	Smart Cylinder Holder Options None 1 Cylinder Holder 2 Cylinder Holders 3 Cylinder Holders 4 Cylinder Holders	Code 0 1 2 3 4	Selection
E	MULTI-UNIT CHARGER	Selection of ALTAIR 4/4X Detector and multi-unit charger provides charging for 1-4 ALTAIR 4/4X Detectors. Selection of ALTAIR 5/5X Detectors and multi-unit charger provides charging for 1-4 ALTAIR 5/5X Detectors.	Multi-unit Charger Options None Multi-unit charger	Code 0 1	Selection
F	POWER CORD	Each test stand (with the exception of Argentina version) comes with 6V power supply. Power cord option then chooses the appropriate power cord by region. None provides power supply and no power cord. Argentina version provides no power supply and no power cord.	Power Cord Options North America Europe United Kingdom Australia Argentina None	Code N E U A R 0	Selection
G	MSA LINK PRO SOFTWARE	Proactively manage safety by addressing gas exposure information and missing or failed calibration and bump tests. End user receives software on digitally-keyed USB drive.	MSA Link Pro Software Options None 1 MSA Link Pro Software USB Key	Code 0 1	Selection
H	SECURE DIGITAL USB	Allows end user to securely configure instrument set points at GALAXY GX2 System test stand. Must be inserted to process any setting changes to an instrument.	Secure Digital USB Options None 1 Secure Digital USB Key	Code 0 A	Selection

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 G H

A-GX2- - - - - - - - - - 0

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

Calibration Cylinders Are Recyclable

MSA has affiliated with the Association of Retarded Citizens, Butler County—a nonprofit organization that employs mentally retarded citizens—and established a Cylinder Recycling Center. The calibration cylinders are not refilled, but salvaged for scrap. All money generated from selling the scrap cylinders is placed in the ARC operating fund for salaries and operating costs.

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

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

DEVALVING TOOLS		
Model RP	Model R	Return Box
711228	711229	711227

MSA Calibration Cylinders

NON-REACTIVE GASES					
Gas Type	Concentration	34L	58L	100L	116L
AIR (ZERO GAS)	THC < 1 ppm	-	-	801050	10150608
CARBON DIOXIDE (CO ₂)	2.5%	-	-	479265	-
CARBON DIOXIDE (CO ₂)	1.5%	-	-	807386	-
CARBON DIOXIDE (CO ₂)	10.00%	-	801050	-	-
CARBON MONOXIDE (CO)	300 ppm	-	-	473180	-
CARBON MONOXIDE (CO)	60 ppm	-	-	710882	10150609
CARBON MONOXIDE (CO)	50 ppm	-	-	809241	-
ISOBUTYLENE	100 ppm	-	-	494450	-
OXYGEN (O ₂)	20.80%	-	-	-	10150610
METHANE	50%	-	10075804	-	-
METHANE (W/ODORANT)	100%	-	711014	-	-

REACTIVE GASES					
Gas Type	Concentration	34L	58L	116L	
AMMONIA (NH ₃)	25 ppm	711078	814866	10150611	
CHLORINE (CL ₂)	10 ppm	711066	806740	10150612	
	2 ppm	711082	710331	10150613	
HYDROGEN CHLORIDE (HCL)	40 ppm	711080	710210	-	
HYDROGEN CYANIDE (HCN)	10 ppm	711072	809351	10150614	
HYDROGEN SULFIDE (H ₂ S)	40 ppm	711062	467897	10150616	
	20 ppm	10153844	10153845	10153846	
	15 ppm	711064	806253	-	
	10 ppm	711060	467898	-	
	5 ppm	711086	710414	-	
NITRIC OXIDE (NO)	50 ppm	711074	812144	10150617	
NITROGEN DIOXIDE (NO ₂)	10 ppm	711068	808977	10150599	
	5 ppm	711084	710332	-	
SULFUR DIOXIDE (SO ₂)	10 ppm	711070	808978	10150600	
PHOSPHINE (PH ₃)	0.5 ppm	711088	710553	10151016	
ISOBUTYLENE	100 ppm	10048279	10028038	-	

MSA Calibration Cylinders

MULTIGAS ("COCKTAIL MIXES") TABLE										
REACTIVE GASES										
COMB Gas	CO	O ₂	H ₂ S	NO ₂	SO ₂	CO ₂	34L	58L	116L	
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	20 ppm	–	–	–	10048280	10045035	10150595	
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	20 ppm	–	10 ppm	–	10098855	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 ₂	34L	58L	116L	100L				
1.45% METHANE AS PENTANE SIMULANT	60 ppm	15%	10048789	478191	–	–				
2.5% METHANE	60 ppm	15%	10049056	813718	–	–				
1.45% METHANE AS PENTANE SIMULANT	300 ppm	15%	–	–	–	10010162				
1.45% METHANE AS PENTANE SIMULANT	–	15%	–	–	–	478192				
ALTAIR 2X DETECTOR										
H ₂ S	SO ₂	CO	NO ₂	34L	58L	116L				
20 ppm	–	–	–	10153844	10153845	10153846				
20 ppm	10 ppm	–	–	10153808	10153807	10153808				
20 ppm	–	60 ppm	–	10153800	10153801	10153802				
–	–	60 ppm	10 ppm	10153803	10153804	10153805				

REGULATORS							
GAS MISER® DEMAND REGULATOR			FIXED FLOW REGULATORS				COMBINATION REGULATOR
Model RP	BD-20	BD-20	Model RP		Model R		Model RP
	CGA 330	CGA 590	0.25 lpm	1.5 lpm	0.25 lpm	0.5 lpm	0.25 lpm
10034391	10148159	710289	467895	467896	459949	459948	711175
	Up to 3000 psi cylinders	Up to 3000 psi cylinders	–	–	–	–	–
Can be used with all reactive gases (replaces 710288)	CGA 330 is standard fitting for H ₂ S containing mixtures	CGA 590 is standard fitting for non-H ₂ 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) and 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 helmets 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 Helmet	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	Type I	Class C	HT/  /LT/HV
V-Gard 500 Non-Vented Cap/Hat	ANSI/ISEA Z89.1-2014	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	 /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
Vanguard 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 Protective Caps and Hats

Color	Small V-Gard Slotted Cap		Standard V-Gard Slotted Cap			Large V-Gard Slotted Cap		V- Gard Slotted Full-Brim Hat		
	w/ Staz-On® Suspension	w/ Fas-Trac® III Suspension ¹	w/ Staz-On Suspension	w/ 1 Touch® Suspension ¹	w/ Fas-Trac III Suspension ¹	w/ Staz-On Suspension	w/ Fas-Trac III Suspension ¹	w/ Staz-On Suspension	w/ 1 Touch Suspension ¹	w/ Fas-Trac III Suspension ¹
COMPLETE V-GARD ASSEMBLIES										
WHITE	466354	477477	463942	10057441	475358	473284	477482	454733	10058321	475369
BLUE	466355	477478	463943	10057442	475359	476928	477483	454732	10058320	475368
YELLOW	466356	477479	463944	10057443	475360	473285	477484	454730	10058318	475366
ORANGE	—	—	463945	10057444	475361	—	—	454734	10058322	496075
RED	—	—	463947	10057446	475363	—	—	454736	10058324	475371
GREEN	—	—	463946	10057445	475362	—	—	454735	10058323	475370
GRAY	—	—	463948	10057447	475364	—	—	454731	10058319	475367
HI-VIZ® ORANGE ²	—	—	488148	10057420	488146	—	489364	489360	10058326	10021292
HI-VIZ YELLOW-GREEN ²	—	—	—	10061514	10061512	—	—	—	10061516	10061515
BRIGHT LIME GREEN	—	489368	815558	—	815565	—	—	815562	—	815570
DARK (CANADIAN) BLUE	—	—	—	—	802972	—	—	—	—	802975
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	—	—	10156374	—	10156373

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

¹ Certified to CSA.

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

Replacement Suspensions for MSA Safety Helmets

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.

HELMET TYPE (SIZE)	SUSPENSION TYPE (4-point, unless otherwise noted)			
	Fast-Trac III	1 Touch	Staz-On	Swing Ratchet ¹
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 VENTED OR NON-VENTED CAP OR HAT (STANDARD)	10148708 (4-point) 10153382 (6-point)	—	—	—
SMOOTHDOVE CAP (STANDARD)	10148708 (4-point) 10153382 (6-point)	—	—	—
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 new **Fas-Trac III Suspension sweatband** accessory keeps workers cool and dry.

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

▲ WARNING

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

¹Swing ratchet size is 6 1/2" through 7 1/2"

Helmet Customization For 30+ Years

Put your reputation on ours: add your company logo, slogan or even an image to your MSA helmet!

MSA offers 14 helmets (20 colors), 4 suspensions, 27+ striping options, 22 stock logos/slogans, and multiple logo locations for unmatched customized helmet possibilities.

Custom Logos

All logos are submitted to MSA Logo Express® Service design team by an MSA distributor. Logo Express Service designers then send an approval form that includes a FREE rendering of the selected hard hat. Your order is started upon receipt of written approval.

Striping

Add any of 27+ reflective and retro-reflective stripes¹ to your helmet. MSA reflective stripes help to enhance worker visibility in daytime conditions, while retro-reflective stripes offer additional nighttime or low-light condition enhancement. Stripes are available in various sizes and shapes, and can be placed on all MSA helmets.

Minimum Order Quantities (MOQ)

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

- 20 for V-Gard, V-Gard 500, V-Gard GREEN, SmoothDome, Topgard and Comfo Cap Helmets.
- 16 for Skullgard or Thermalgard Helmets.
- 12 for Super-V and Vanguard Helmets.
- 40 for Bump Caps.



Placing Customized Helmet Orders

Three easy steps to receive your first order of new logos and/or striping:

1. Complete all sections on the MSA Logo Express Service Order Form (ID 0617-01 MC).
2. See "Artwork Guidelines" (ID 0617-06-MC) for details on artwork submission.
3. Submit an electronic file of your artwork by email (Logo.Express@msasafety.com) or by US Postal Service (MSA Logo Express, 3880 Meadowbrook Rd., Murrysville, PA 15668-1753). 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
PHONE: 1-800-MSA-LOGO (1-800-672-5646)
ADDRESS: MSA Logo Express
 3880 Meadowbrook Rd.
 Murrysville, PA 15668-1753

Visit us on the web:

us.msasafety.com/logoexpress

KEYWORD: Logo



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.

¹Most of our retro-reflective stripes meet Type II requirements as per ASTM D4956, the specification for flexible, non-exposed glass bead lens and microprismatic, retroreflective sheeting designed for use on traffic control signs and other devices.

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



Officially Licensed NFL V-Gard Helmets

ClassificationType I
ApplicationGeneral purpose
Shell MaterialPolyethylene
StylesSlotted cap
Suspension1 Touch
SizesStandard (6½ – 8")
StandardsANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
CertificationThird-party by SEI

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	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	Oakland Raiders Part No. 818405	Philadelphia Eagles Part No. 818406	Pittsburgh Steelers Part No. 818407
San Diego Chargers Part No. 818408	San Francisco 49ers Part No. 818409	Seattle Seahawks Part No. 818410	St. Louis Rams Part No. 818411	Tampa Bay Buccaneers Part No. 818412
Tennessee Titans Part No. 818413	Washington Redskins Part No. 818414			

Freedom Series™ and Specialty V-Gard Protective Caps and Hats

Classification	Type I	Standards	ANSI/ISEA Z89.1-2014 (Class E); CSA Z94.1-2015 (Class E)
Application	General purpose	Certification	Third-party by SEI
Shell Material	Polyethylene with thermoformed graphics	Customization	Imprinting and striping available (see page 73)
Styles	Slotted cap; Slotted full-brim hat (Freedom Series only)	Replacement Suspensions	See page 72
Suspension	Fas-Trac III		
Sizes	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 ¹ <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 ² <i>V-Gard Slotted Cap</i> Part No. 10103908

¹Not pictured

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

Topgard® Protective Caps and Hats



White w/lamp bracket

Topgard Cap with Fas-Trac III Suspension

Classification.....Type I
 Application.....General purpose; elevated temperature¹
 Shell Material.....Polycarbonate
 Styles.....Slotted cap;
 Non-slotted full-brim hat
 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/ 1 Touch Suspension	w/ Fas-Trac III Suspension
TOPGARD SLOTTED CAP (STANDARD SIZE)		
WHITE	454728	475385
YELLOW	454721	475378
GRAY	454722	475379
BLUE	454723	475380
ORANGE	454725	475382
GREEN	454726	475383
RED	454727	475384
BRIGHT ORANGE	—	804396
WHITE W/LAMP BRACKET AND CORD HOLDER	448914	—
TOPGARD NON-SLOTTED HAT (STANDARD SIZE)		
WHITE	454719	475393
YELLOW	454712	475387
GRAY	454713	—
BRIGHT ORANGE	—	804397

Thermalgard® Protective Caps



Thermalgard Cap with Fas-Trac III Suspension

Classification.....Type I
 Application.....General purpose; elevated temperature²
 Shell Material.....Glass-reinforced nylon
 Styles.....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/ 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.

Customization: Imprinting and striping available—see page 73 **Replacement Suspensions:** See page 72

¹Topgard Caps and Hats have been tested to radiant heat loads producing temperatures up to, but not exceeding, 275°F.
²Thermalgard Caps and Hats have been tested to radiant heat loads producing temperatures up to, but not exceeding, 350°F.

Skullgard® Protective Caps and Hats

Classification.....Type I
Application.....General purpose; elevated temperature¹
Shell Material.....Phenolic
Styles.....Non-slotted cap; full-brim hat
Colors.....
Sizes.....**Cap:** Small (6 – 7½"); Standard (6½ – 8"); Large (7 – 8½")
Hat: Standard (6½ – 8")
Standards.....ANSI/ISEA Z89.1-2014 (Class G)
Certification.....Third-party by SEI



Skullgard Cap, natural, with Fas-Trac III Suspension



Skullgard Helmet natural full-brim hat

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

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

Customization: Imprinting and striping available—see page 73 **Replacement Suspensions:** See page 72

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

² 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.

Super V® Protective Caps



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

Classification.....Type I (ANSI) and Type II CSA)
Application.....Lateral protection
Shell Material.....Polyethylene
Styles.....Slotted cap w/foam liner
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/Fas-Trac III Suspension
SUPER V ASSEMBLIES	
WHITE	C217091
YELLOW	C217093
RED	C217095
ORANGE	C217094
BLUE	C217092
NAVY GRAY	C217097
HI-VIZ ORANGE ¹	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.

Vanguard™ Protective Caps



Vanguard Cap, yellow, 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 – 8")
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
VANGUARD ASSEMBLIES	
WHITE	804940
YELLOW	804939
RED	804944
HI-VIZ ORANGE ¹	804947
BLUE	804946

WARNING

Use only MSA's Fas-Trac III Suspension designed for Vanguard 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 page 73 **Replacement Suspensions:** See page 72



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.

¹Super V Cap and Vanguard Cap meet 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 Accessory System: V-Gard Frames for Caps

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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

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

Min Order Qty: 10

PART NO.	10115730	10121266	10115822	10121268
MATERIAL	High density polyethylene (HDPE)	High density polyethylene (HDPE)	High density polyethylene (HDPE)	High density polyethylene (HDPE)
DEBRIS CONTROL	Includes replaceable debris control which creates tight seal between frame and cap	Debris control sold separately	Includes replaceable debris control which creates tight seal between frame and cap	Debris control sold separately ³
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Fits all MSA Slotted Caps Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs² Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor 	<ul style="list-style-type: none"> Fits all MSA Slotted Caps³ Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs² Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor 	<ul style="list-style-type: none"> Fits all MSA Caps (Slotted or Non-Slotted)⁴ Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models Design allows use with other PPE, including MSA earmuffs and respirators 	<ul style="list-style-type: none"> Fits all MSA Caps (Slotted or Non-Slotted)⁴ Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models Design allows use with other PPE, including MSA earmuffs and respirators

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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

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

Min Order Qty: 10

PART NO.	10115821	10121267	10116552	10124426
MATERIAL	Polycarbonate – all non-metal construction	Polycarbonate – all non-metal construction	Polycarbonate – all non-metal construction	Polycarbonate – all non-metal construction
DEBRIS CONTROL	Replaceable debris control tested against EN 166 hot solids requirements	Debris control sold separately ³	Replaceable debris control tested against EN 166 hot solids requirements	Debris control sold separately ³
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs² Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor 	<ul style="list-style-type: none"> Stowable slot adaptors secure frame tightly in slotted MSA caps, and allow frame to work with or without earmuffs Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor 	<ul style="list-style-type: none"> Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models⁴ Design allows use with other PPE, including MSA earmuffs and respirators 	<ul style="list-style-type: none"> Heavy duty flat rubber strap allows easy and secure placement on all MSA caps, including non-slotted models⁴ Design allows use with other PPE, including MSA earmuffs and respirators

⚠ 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.

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

²Patent pending

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

⁴MSA 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 Full-Brim Helmets

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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

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

Min Order Qty: 10

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

V-Gard Frames for Elevated Temperature Applications

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

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

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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3; EN 166; and AS/NZS 1337

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

Min Order Qty: 10

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

V-Gard Accessory System: V-Gard Frames for MSA Slotted Full-Brim Helmets

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

Standards¹: 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

			
PART NO.	10154622 	PART NO.	10154604 
MATERIAL	Polybutylene terephthalate (PBT)	MATERIAL	Polybutylene terephthalate (PBT)
DEBRIS CONTROL	Sold with replaceable debris control which creates tight seal between frame and hat	DEBRIS CONTROL	Debris control sold separately
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Fits MSA Slotted Full Brim Hats • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor • Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost² 	PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Fits MSA Slotted Full Brim Hats • Sliding adjustment blades allow visor to work with most half-mask respirators and other PPE worn under a visor • Patented Infini-just allows lift/closure adjustment using grippable knobs that can't be lost²

Debris Control

	
PART NO.	10116628
MATERIAL	All rubber construction
DEBRIS CONTROL	Exceeds EN requirements for molten metal
PRODUCT SPECIFICS	• Debris Control for V-Gard Slotted Full Brim Hat Frames

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

V-Gard Accessory System: V-Gard Metal Frames for Caps and Full-Brim Hats

V-Gard Frames for General Purposes and Elevated Temperature Applications

Markets: Manufacturing; construction; steel/smelting operations

Standards: ANSI/ISEA Z87.1-2015; CSA Z94.3

Applications: Machine operation, maintenance, millwright, extrusion, drilling, blasting, casting/conveying

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

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

WARNING

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



Head, Eye, Face, and Hearing Protection

V-Gard Visors: General Purpose










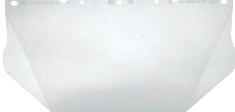












Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

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

Min Order Qty: 10

			
PART NO.	10144486 	10115836  	10115837  
MATERIAL	Polycarbonate – clear	Polycarbonate – clear	Polycarbonate – clear
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) 		
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 5" (14.61 cm) x 17" (43.2 cm) x .04" (1.02 mm) • Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors • Contoured visor; closer fit and improved resistance to impact and splash hazards • Approved to ANSI and CSA² standards; does not meet EN standards 	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards 	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm) • Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors • Contoured visor; closer fit and improved resistance to impact and splash hazards
			
PART NO.	10120108 	10115863  	10115839  
MATERIAL	Polycarbonate – clear	Polycarbonate – clear	Polycarbonate with antifog/anti-scratch coatings for humid conditions – clear
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) 		<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) • Slightly thicker for industrial impact applications
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02mm) • Bulk pack of 20 • Contoured visor; closer fit and improved resistance to impact and splash hazards 	<ul style="list-style-type: none"> • 9.5" (24.1 cm) x 17" (43.2 cm) x .04" (1.02mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards 	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards
			
PART NO.	10115841  	10115842  	
MATERIAL	Polycarbonate with antifog/anti-scratch coatings for humid conditions – clear	Polycarbonate with anti-fog/antiscrash coatings for humid conditions – green tint to reduce glare	
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) • Slightly thicker for industrial impact applications 		
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm) • Nitrometer; for use with V-Gard Retractable or Standard Chin Protectors • Contoured visor; closer fit and improved resistance to impact and splash hazards 	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards • Not for use where a Shade infrared (IR) visor is required 	

¹Standards 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

Standards¹: ANSI/ISEA Z87.1-2015; CSA Z94.3 and EN 166 (2C-1.2 MSA 1B); AS/NZS 1337 (except as noted)

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

Min Order Qty: 10

		
PART NO.	10115840 	10117783 
MATERIAL	Polycarbonate – clear	Polycarbonate – clear
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) • Slightly thicker for industrial impact applications 	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm) • Contoured visor; closer fit and improved resistance to impact and splash hazards 	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17" (43.2 cm) x .06" (1.52mm) • Flat nitrometer; for use with V-Gard Retractable or Standard Chin Protectors • Wider design; improved resistance to impact and splash hazards • Does not meet CSA Z94.3

V-Gard Visors: General Purpose (Non-Impact)



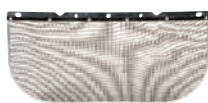



Markets: General industry, manufacturing, repair and maintenance, construction, oil and gas, forestry, shipbuilding, metalworking, automotive, mining

Applications: Flying chips and other light debris

Standards¹: ANSI/ISEA Z87.1-2015; EN 1731-F; and AS/NZS 1337

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

Min Order Qty: 10

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

¹Standards 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

Standards¹: ANSI/ISEA Z87.1-2015; EN 166 (MSA 1B 3); CSA Z94.3 and AS/NZS 1337

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

Min Order Qty: 5

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



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

Standards¹: ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT9KN); CSA Z94.3 and AS/NZS 1337

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

Min Order Qty: 5

		
PART NO.	10115853 	10115854 
MATERIAL	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
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) • Thick for heavy-duty industrial impact applications 	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm) • Molded visor for superior optics under heavy duty use • Extended length for greater coverage of neck/face • Performs well against many chemicals. Refer to MSA's <i>Chemical Application Quick Reference Guide</i> (ID 0670-007-MC) for details 	<ul style="list-style-type: none"> • 10.375" (26.4 cm) x 17" (43.2 cm) x .098" (2.5 mm) • Molded visor for superior optics under heavy duty use • Extended length for greater coverage of neck/face • Not for use where a Shade IR visor is required



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.

¹Standards 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

Standards¹: ANSI/ISEA Z87.1-2015; EN 166 (2C-1.2 MSA IBT89KN); CSA Z94.3 and AS/NZS 1337

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

Min Order Qty: 5

PART NO.	10115844  	10115845  
MATERIAL	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
FEATURES	<ul style="list-style-type: none"> • Maximum UV protection • Impact-rated (Z87+) • Slightly thicker for industrial impact applications 	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm) • Molded visor for superior optics under heavy duty use • Extra-thick visor helps prevent warping, cracking or crazing • Conditioned to a high of 131°F (and a low of -23°F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010) • Visors do not reflect IR; not recommended for use against radiant heat hazards 	<ul style="list-style-type: none"> • 9.25" (23.5 cm) x 17" (43.2 cm) x .098" (2.5mm) • Molded visor for superior optics under heavy duty use • Extra-thick visor helps prevent warping, cracking or crazing • Conditioned to a high of 131°F (and a low of -23°F) and then tested to the medium impact rating in the EN166 standard (higher impact speed than ANSI/ISEA Z87.1-2010) • Visors do not reflect IR; not recommended for use against radiant heat hazards • Not for use where a Shade IR visor is required

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

Standards¹: ANSI/ISEA Z87.1-2015; EN 166 (2C-2.5 MSA 1BT3R [clear] and 2-4 MSA 1BT3R [green tint]); CSA Z94.3 and AS/NZS 1337

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

Min Order Qty: 5

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



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/m². 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.

¹Standards 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

Standards¹: 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

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

V-Gard Visors: Arc Flash Application²



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

Applications: Maintenance, impact and debris, testing/repair

Standards¹: ANSI/ISEA Z87.1-2015; ASTM F2178-2008 (Ref: NFPA 70E, HRC 2)

Certification: Third-party by Intertek and ArcWear

Min Order Qty: 5

		
PART NO.	10115847	10118480
MATERIAL	Polycarbonate — special tint, light green visor; molded	Polycarbonate — special tint, light green visor; molded (for use with designated V-Gard Chin Protector)
FEATURES	• Impact-rated (Z87+)	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 9.25" (23.5 cm) x 18" (45.7 cm) x .065" (1.7 cm) • Extended length and width for greater coverage of face and neck • Rated to 12.9 cal/cm² when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Hard Hat (PN 475358) and V-Gard Frame (PN 10121266) <p><i>Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations</i></p>	<ul style="list-style-type: none"> • 8" (20.3 cm) x 17.25" (43.8 cm) x .065" (1.7 cm) • Extended length and width for greater coverage of face and neck • Rated to 12.9 cal/cm² when tested to ASTM F2178-2008 (ref. NFPA 70E-2015 PPE Category 2), and when worn with a V-Gard Hard Hat (PN 475358) and V-Gard Frame (PN 10121266) and V-Gard Standard Chin Protector (PN/10115827) <p><i>Call MSA Customer Service (800-MSA-2222) for protection levels when using this V-Gard Arc Visor with other V-Gard Frames and MSA Helmet combinations</i></p>

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

²Do not use V-Gard Arc Visors with V-Gard Headgear. These visors are designated for use with specified V-Gard Frames and MSA helmets ONLY.

See "V-Gard Headgear" for additional details.

V-Gard Headgear

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







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)

Standards²: 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.

		
PRODUCT NAME	V-Gard Headgear (General Purpose)	V-Gard Headgear (Elevated Temperature)
PART NO.	10127061 	10127062 
MATERIAL	High Density Polyethylene (HDE) – black	Heat-resistant nylon – gray
FEATURES	• Ratchet closure	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose! • Seven-point crown adjustment • Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool • Sweat-wicking ratchet cover keeps nape comfortable • For use ONLY with V-Gard Visors; not for use where head protection is required • All non-metal construction • Minimum order quantity: 10 	<ul style="list-style-type: none"> • Extended browguard for additional coverage in high temperatures • Tested to withstand temperatures up to 400°F³ • Patent-pending, Infini-just lift/closure with grippable knobs that don't unscrew; no parts to lose! • Seven-point crown adjustment • Replaceable, sweat-wicking, cushioned headband helps keep workers dry and cool • Sweat-wicking ratchet cover keeps nape comfortable • For use ONLY with V-Gard Visors; not for use where head protection is required • All non-metal construction • Minimum order quantity: 5
		
PRODUCT NAME	V-Gard Headgear Kit (General Purpose)	V-Gard Headgear Replacement Sweatband ⁴
PART NO.	10127063	10127065
PRODUCT SPECIFICS	<p>Contains:</p> <ul style="list-style-type: none"> • V-Gard General Purpose Headgear (PN 10127061) • V-Gard Clear, PC Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) 	<ul style="list-style-type: none"> • Sweat-wicking material over breathable foam helps keep workers cool, dry and comfortable • Hook & loop closure makes replacement easy • Tested to the FR requirements in CSA Z94.3-07 • Sold in boxes of 25 (5 packages of 5)

¹ **DO NOT** use V-Gard Headgear with V-Gard Arc Visors tested to ASTM F2178-2008 Test Method (ref. NFPA 70E-2012, Hazard Risk Category). These visors are designated for use with specified V-Gard Frames and MSA helmet ONLY as face protection for workers exposed to high voltage electric arcs. V-Gard Headgear has not been tested or certified to the Test Method, and should not be used for this type of Arc Flash protection.

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

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

⁴ Use only genuine MSA V-Gard Headgear replacement parts to help ensure compatibility and compliance. MSA does not warrant, guarantee or promote the use of components manufactured by other companies when used in conjunction with MSA products.

Head, Eye, Face, and Hearing Protection

V-Gard Chin Protectors¹

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

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

V-Gard Accessory System Kits

				
KIT	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
PART NO.	10118695	10118697	10118694	10118696 ²
KIT CONTENTS	<ul style="list-style-type: none"> • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps; with debris control (PN 10115730) • V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) 	<ul style="list-style-type: none"> • V-Gard Universal Frame for Caps with debris control (PN 10115822) • V-Gard Clear, Polycarbonate Visor, 8" (20.3 cm) x 17" (43.2 cm) x .04" (1.02 mm) (PN 10115836) <p>Does not contain an MSA safety helmet.</p>	<ul style="list-style-type: none"> • Hi-viz orange V-Gard Cap with ratchet suspension (PN 488146) • V-Gard Frame for Slotted Caps; with debris control (PN 10115730) • V-Gard Mesh Nitrometer (PN 10116558) • V-Gard Retractable Chin Protector (PN 10115828) • left/RIGHT, HIGH (NRR 28 db) Cap-Mounted Earmuffs (PN 10087422) 	<ul style="list-style-type: none"> • White V-Gard Cap with ratchet suspension (PN 475358) • V-Gard Frame for Slotted Caps (PN 10121266) • V-Gard Arc Nitrometer with V-Gard Standard Chin Protector (PN 10118480); must be assembled by user prior to wearing to secure stated calorie rating. • Rated to 11.3 cal/cm² 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)

V-Gard Accessory System Replacement Parts³

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

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

² 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.

³ 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.

Welding Shield and Adapters

NEW!



Available
Summer 2017

The best brand in hard hats and the best brand in welding shields are joining forces to combine the best of both technologies. This partnership, between MSA and Miller, will deliver a truly unstoppable force in welding applications across all industries both companies touch.

MSA/Miller welding series offers five shields, three lens types and three specially-designed adapters that integrate seamlessly with MSA helmets. The welding shield and adapters are now certified for use with MSA V-Gard® Caps, Skullgard® Caps, Thermalgard® Caps, and SmoothDome® Caps. Their lightweight, low profile design makes these shields ideal for confined space welding applications.

Applications: Welding, gas soldering, light cutting/brazing, manufacturing, impact, and debris
Standards: Certified to ANSI Z87.1-2015, ANSI Z89.1-2014 and compliant to CSA Z94.3.-2015



Elite Series Welding Shield, shown on Thermalgard Cap

Elite Series Welding Shields

			
PART NO.	10177018	10177017	10177019
FEATURES	<ul style="list-style-type: none"> • Elite 9.2 sq. in. viewing window • Slotted and non-slotted adapters • Variable ADF (5-8, 8-13) • Forward and reverse don 	<ul style="list-style-type: none"> • Elite 5.8 sq. in. viewing window • Slotted and non-slotted adapters • Variable ADF (8-13) • Forward and reverse don 	<ul style="list-style-type: none"> • Elite Passive 16 sq. in. viewing window • Slotted and non-slotted adapters • Passive shade 10 lens • Forward and reverse don

Classic Series Welding Shields

		
PART NO.	10177020	10177021
FEATURES	<ul style="list-style-type: none"> • 5.2 sq. in. viewing window • Slotted and non-slotted adapters • Fixed ADF shade 10 lens • Forward and reverse don 	<ul style="list-style-type: none"> • 7.8 sq. in. viewing window • Slotted and non-slotted adapters • Passive shade 10 lens • Forward and reverse don






Classic Series Welding Shield, fixed passive shade 10 lens shown on Skullgard Cap

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



Welding Shield and Adapters

Welding Shield Adapters

			
PART NO.	10177024	10177022	10177023
PRODUCT	Universal adapter	Slotted adapter for Elite Series	Slotted adapter for Classic Series
FEATURES	<ul style="list-style-type: none"> • Universal for Skullgard Caps • Slotted for V-Gard, SmoothDome and Thermalgard Caps • Specifically designed and approved for MSA helmets 		

Passive Filters

		
PART NO.	10177646	10177647
FEATURES	<ul style="list-style-type: none"> • Elite Series • Shade 10 • 4" x 5" • Pkg of 1 	<ul style="list-style-type: none"> • Classic Series • Shade 10 • 4" x 2" • Pkg of 1

Magnification Lens

				
PART NO.	10177648	10177649	10177650	10177661
FEATURES	<ul style="list-style-type: none"> • 1.25 diopter • Pkg of 1 	<ul style="list-style-type: none"> • 1.50 diopter • Pkg of 1 	<ul style="list-style-type: none"> • 1.75 diopter • Pkg of 1 	<ul style="list-style-type: none"> • 2.00 diopter • Pkg of 1

Grinding Lens

	
PART NO.	10177665
FEATURES	<ul style="list-style-type: none"> • Fits all Classic Shields • Clear grinding plate • Pkg of 5

Cover Plate Lens

					
PART NO.	10177662	10177663	10177666	10177667	10177664
FEATURES	<ul style="list-style-type: none"> • Fits all Elite Shields • Clear outside cover plate • Pkg of 5 	<ul style="list-style-type: none"> • Fits Elite 9.2" • Clear inside cover plate • Pkg of 5 	<ul style="list-style-type: none"> • Fits Elite 5.8" • Clear inside cover plate • Pkg of 5 	<ul style="list-style-type: none"> • Fits Elite passive • Clear inside cover plate • Pkg of 5 	<ul style="list-style-type: none"> • Fits all Classic Shields • Clear inside/outside cover plate • Pkg of 5













For more information about this great new collaboration, visit MSAsafety.com or MillerWelds.com




**Available
Summer 2017**

V-Gard Winter Liners

Flame resistant (FR) garments are made of special fibers that allow them 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 Liners are flame resistant, affording FR protection throughout the life of the product.¹ For this reason, only V-Gard Supreme Liners offer resistance to arc exposure.

Flame retardant garments have been chemically treated to resist burning when a flame is present. While chemical treatment can wear off after the first wash, all layers of ALL V-Gard Select products offer flame retardancy up to 50 washings.

	V-Gard Supreme Flame-Resistant Liners			V-Gard Select Flame-Retardant Liners	
					
PRODUCT	Flame-Resistant V-Gard Supreme Liner	Flame-Resistant V-Gard Supreme Liner, Extended, 1-piece	Flame-Resistant V-Gard Supreme Liner, 2-piece	Flame-Retardant V-Gard Select Liner, Extended, No Earflaps	Flame-Retardant V-Gard Select Liner
PART NO.	10118421	10118425	10118427 	10129654 	10118420
FEATURES	<ul style="list-style-type: none"> • Fabric tested to withstand arc exposure to an ATPV of 8 cal/cm² • Water repellant • Inside neck pocket holds warming packet² • Sold in sets of 3 			<ul style="list-style-type: none"> • Flame retardant to 50 washes • Water repellant • Sold in sets of 12 	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Multiple layers of flame-resistant fabric • Adjustable chinstrap 	<ul style="list-style-type: none"> • Multiple layers of flame-resistant fabric • Inside neck pocket holds warming packet² • Extended nape and wraparound collar for tucking into coat/shirt • Quilted flaps allow uncompromised hearing protection levels when using earmuffs 	<ul style="list-style-type: none"> • Multi-layered flame-resistant top cap • Inside neck pocket holds warming packet² • Extended, zipper on/off high-bulk flame-resistant knit bottom • No metal parts 	<ul style="list-style-type: none"> • Two layers of fabric • Extended nape and wraparound collar for tucking into coat/shirt • For applications where earmuffs are not worn 	<ul style="list-style-type: none"> • Two layers of fabric • Adjustable chinstrap • Quilted flaps allow uncompromised hearing protection levels when using earmuffs 

	V-Gard Value Liners	
		
PRODUCT	V-Gard Value Liner, Knit Cap	V-Gard Liner, Knit Hat/Cap Cover
PART NO.	10118417 	10118418
FEATURES	<ul style="list-style-type: none"> • Sold in sets of 12 	
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Stylish skullie cap • Design prevents liner from obstructing vision • 100% high bulk acrylic 	<ul style="list-style-type: none"> • 100% acrylic • Bright yellow-green for greater visibility • Full face tube mounts under or over brim of MSA caps or hats, covering ears, mouth, cheeks and neck • Extended nape and wraparound collar for tucking into coat/shirt




¹Garment care instructions must be followed.

²Warming packets available at most sporting goods retailers; not sold with liners.

Head, Eye, Face, and Hearing Protection

Hard Hat Accessories

Chinstraps

			
PART NO.	10171103 ¹	10171104	10171105
FEATURES	<ul style="list-style-type: none"> • Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort 		
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 2-pt • ¾" Nomex webbing • Attaches to shell 	<ul style="list-style-type: none"> • 2-pt • ¾" polyester webbing • Attaches to shell 	<ul style="list-style-type: none"> • 2-pt • ¾" cotton webbing • Attaches to shell
			
PART NO.	10171106	10171107	10124238 
FEATURES	<ul style="list-style-type: none"> • Non-metal chinstraps keep helmets in place • Flexible construction and adjustable design for long-wearing comfort 		
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • 2-pt • ¾" cotton webbing • Attaches to suspension² 	<ul style="list-style-type: none"> • 2-pt • ¾" polyester webbing • Attaches to suspension² 	<ul style="list-style-type: none"> • 4-pt • ¾" polyester webbing • Attaches to suspension² • Pkg of 10

Helmet Lights

		 <i>Shown with light holder P/N 814322</i>	 <i>Shown with Stealthlite P/N 697261</i>
PRODUCT	VersaLite Helmet Light	Stealthlite Helmet Light	Light Holder
PART NO.	697259 ³	697261 ⁴	814322
FEATURES	<ul style="list-style-type: none"> • Fit into MSA's special cap adapters • FM and CSA-approved for intrinsic safety • Non-incendive 		<ul style="list-style-type: none"> • For slotted caps
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Comes with 2 AA alkaline batteries 	<ul style="list-style-type: none"> • Batteries not included 	<ul style="list-style-type: none"> • No metal parts

¹For elevated temperatures; flame-resistant. Not recommended for use where molten metal splash hazards exist.

²Staz-On suspension only.

³VersaLite Helmet Light does not include, but requires, slot adapter (P/N 10117496 – see p. 90) to work in helmet slots.

⁴Stealthlite Helmet Light does not include, but requires, batteries and a light holder to work in helmet slots.

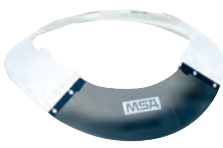
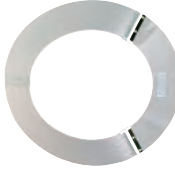


Hard Hat Accessories

SunShade Hard Hat Accessory



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

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


Sun Shields

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

Emergency Medical Info Accessory

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

In-Service Helmet Label

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

Industrial Hearing Protection and Communication Systems

MSA has an impressive line of hearing protection products for nearly every industrial application. In fact, MSA offers what customers want most: economical options, cutting-edge technology, quality and outstanding performance.



The Noise Reduction Rating (NRR) describes the average sound level reduction (“attenuation”) provided by hearing protectors in a laboratory setting. Because the 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 Attenuation¹:

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 the Estimated Protection works for your environment!

Helmet Mounted

left/RIGHT® Hearing Protection for MSA Slotted Caps

MSA left/RIGHT earmuffs are different from any other on the market: the cups are designed to account for the asymmetrical position of each ear on the head. MSA left/RIGHT cups can be adjusted to the angle of the ear, and also independently raised or lowered.

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

Applications:

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

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

Compatible PPE:

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

PRODUCT NAME	left/RIGHT (HIGH)	left/RIGHT (MEDIUM)	left/RIGHT (LOW)	left/RIGHT CutOff Pro
TYPE	Passive	Passive	Passive	Electronic
PART NO.	10087422	10087429	10087439	10111823
NRR	28 dBA	25 dBA	21 dBA	20 dBA
PRODUCT FEATURES	• For use in high-noise environments	• For use in medium-noise environments	• For use in low-noise environments	<ul style="list-style-type: none"> • Enables face-to-face communication while hearing is protected • Amplifies weak signals through electronic system • Battery save and low battery warning functions • AUX input for MP3 player

PRODUCT NAME	left/RIGHT (HIGH) Hygiene Kit	left/RIGHT (MEDIUM) Hygiene Kit	left/RIGHT (LOW) Hygiene Kit	left/RIGHT CutOff Pro Hygiene Kit
PART NO.	10092880	10092879	10092878	10094605
PRODUCT FEATURES	<ul style="list-style-type: none"> • Cushions and inserts • Work with left/RIGHT helmet-mounted or headband products 			

¹https://www.osha.gov/dts/osta/otm/noise/hcp/attenuation_estimation.html

Helmet Mounted

SoundControl® Classic Hearing Protection for MSA Slotted Helmets (Passive)

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: 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 Slotted Helmets (cap or full brim, as indicated)

PRODUCT NAME	SoundControl HPE	SoundControl EXC	SoundControl XLS	SoundControl SH
PART NO.	10061272	10061230	10061535	10129327
NRR	27 dBA	25 dBA	23 dBA	25 dBA
PRODUCT FEATURES	<ul style="list-style-type: none"> • For use with MSA slotted caps • Excellent protection against low-frequency noises, such as road vehicles, aircraft or wind turbines. • Easy to adjust cups—even with gloves on • Spring arm design provides proper closure and low pressure 	<ul style="list-style-type: none"> • For use with MSA slotted caps • Provide excellent attenuation and maximum ear space • Three distinct wearing positions 	<ul style="list-style-type: none"> • For use with MSA slotted caps • Easy to remove ear cushions for quick replacement 	<ul style="list-style-type: none"> • For use with MSA slotted full brim helmets • Does not interfere with Class E rating of MSA slotted Full Brim Helmets • Three wearing positions

PRODUCT NAME	HPE Hygiene Kit	EXC Hygiene Kit	XLS Hygiene Kit	SoundControl SH Hygiene Kit
PART NO.	10061291	10061292	10061537	10003360
PRODUCT FEATURES	<ul style="list-style-type: none"> • Foam cushions and inserts • Work with Classic hearing protection helmet-mounted or headband products 			

SoundControl® Classic Hearing Protection for MSA Non-Slotted Helmets

Markets: General industry, manufacturing, repair and maintenance, construction, OGP, 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 Universal Frames—no additional parts needed
- Most V-Gard Visors
- MSA Non-Slotted Helmets (cap or full brim, as indicated)

PRODUCT NAME	Sound Blocker™ 26	Soprano™
PART NO.	10022021	10034487
NRR	26 dBA	25 dBA
PRODUCT FEATURES	<ul style="list-style-type: none"> • For use with MSA non-slotted caps • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C 	<ul style="list-style-type: none"> • For use with MSA non-slotted full brim hats • Requires drilling into the helmet to mount the muffs • The ANSI/ISEA Z89.1 class rating of a drilled helmet is Class C

PRODUCT NAME	SoundBlocker 26 Hygiene Kit
PART NO.	10003360
PRODUCT FEATURES	<ul style="list-style-type: none"> • Foam cushions and inserts

Attenuation Chart

The attenuation chart below provides guidance on potential noise and protection levels for various types of work environments. This chart is provided as a tool for guidance in selecting protectors, however, it is not intended to replace a worksite-specific hearing conservation program where hearing protectors are required for occupational noise exposure.

Sound Level (dBA)	Example	Dangerous Unprotected Exposure Time	Suggested MSA Product	Style	NRR (EPA Label) ¹	NRR Reduction ^{2,3}	Derated Protection ^{2,3}	Estimated Protected Exposure ^{2,3}
88	Backhoe	4 hours	left/RIGHT (LOW)	Headband Cap-Mounted	21	7	14	74
91	Home Stereo	2 hours	XLS	Headband Cap-Mounted	23	8	15	76
92	Crane	1.5 hours	Economuff (over the head) EXC	Headband Cap-Mounted	24	8.5	15.5	76.5
93	Bulldozer	1 hour	left/RIGHT (MEDIUM) EXC Soprano SoundControl SH	Headband Cap-Mounted (Slotted) Hat-Mounted (Non-Slotted) Full Brim Mounted (Slotted)	25	9	16	77
94	Front-end loader	1 hour	HPE	Headband Cap-Mounted	27	10	17	77
95	Lawn-mower	45 minutes	SoundBlocker 26	Cap-Mounted (Non-slotted)	26	9.5	16.5	78.5
97	Concrete joint cutter	30 minutes	left/RIGHT (HIGH)	Headband Cap-Mounted	28	10.5	17.5	79.5

Headband

left/RIGHT® Hearing Protection



MSA left/RIGHT earmuffs are different from any other on the market: the cups are designed to account for the asymmetrical position of each ear on the head. MSA left/RIGHT cups can be adjusted to the angle of the ear, and also independently raised or lowered.

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

Applications:

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

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

			
PRODUCT NAME	left/RIGHT (HIGH)	left/RIGHT (MEDIUM)	left/RIGHT (LOW)
PART NO.	10087399	10087426	10087436 
NRR	28 dBA	25 dBA	21 dBA
PRODUCT FEATURES	• 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 pharmaceuticals and outside maintenance, where overprotection is a concern
			
PRODUCT NAME	left/RIGHT (HIGH) Hygiene Kit	left/RIGHT (MEDIUM) Hygiene Kit	left/RIGHT (LOW) Hygiene Kit
PART NO.	10092880	10092879	10092878
PRODUCT FEATURES	• Cushions and inserts • Works with left/RIGHT passive helmet-mounted or headband products		

¹ The labeled values of noise reduction are based on laboratory tests. To accurately assess occupational noise levels and understand required hearing protection, please refer to the occupational hearing conservation program at your worksite.

² For details on de-rating stated attenuation levels, please see page 96.

³ Experts indicate that overprotection can occur at protected exposure levels of 70 dBA or lower.

⁴ For details on dual protection, please see above.




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

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

	
PRODUCT NAME	HPE Hygiene Kit
PART NO.	10061291
PRODUCT FEATURES	• Foam cushions and inserts

	
PRODUCT NAME	EXC Hygiene Kit
PART NO.	10061292
PRODUCT FEATURES	• Foam cushions and inserts

Economuff Value Hearing Protection


Economuff hearing protector provides cost-effective options that don't sacrifice comfort or protection.

Markets: Repair and operation (MRO), mining, food and beverage manufacturing, metal fabrication, oil & gas, general manufacturing

Applications: Facility maintenance, grinding, machine operations, sanding, welding, demolition, painting, assembly, cleaning

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

Compatible PPE: MSA Helmets¹

	
PRODUCT NAME	Economuff Multi-Position
PART NO.	10061273
NRR	23 dBA (under chin/behind head) 24 dBA (over the head)
PRODUCT FEATURES	<ul style="list-style-type: none"> • Offers three positions: under the chin, behind the head or over the head • Under the chin or behind the head positions allow use of head protection • Durable design for use in tough environments • No metal parts • Padded headband makes longer wear possible • One size fits most



The attenuation of an earmuff depends on the fit of the muff against the head and around the pinnae (i.e., the "tightness" of the seal). Gaps, including those caused by safety glasses, provide an easy path for sound to travel, reducing protection levels. To reduce this effect, try not to put anything under the cup (such as pencils, hair, etc.). But, if you must wear protective eyewear, select either those with a thin strap or a very thin temple. If the gap is noticeable, the protection level is compromised.



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.

¹Economuff multi-position worn in behind-the-head or under-the-chin positions only.

Sightgard Safety Glasses

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






Material: Polycarbonate





Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

		
MODEL	Vista	Luxor™
PART NO.	10070914	697516 
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Vertical temple adjustment Lightweight, single lens 	<ul style="list-style-type: none"> Clear lens Single wrap-style lens Horizontal temple adjustment

		
MODEL	Arctic	Discovery II
PART NO.	697514 	10106382  
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating 	<ul style="list-style-type: none"> Impact-rated (Z87+)
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Frameless and lightweight Among our most popular models Full side coverage 	<ul style="list-style-type: none"> Clear lens Flexible, nylon temple arms adjust to head width Soft nose bridge Extra-lightweight

		
MODEL	Easy Flex	Sierra
PART NO.	10070917 	697550 
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Temples and frame flex for a custom fit 	<ul style="list-style-type: none"> Clear lens Classic full coverage look Adjustable temples Integral side protection

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




Material: Polycarbonate

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)


Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

		
MODEL	Arctic Elite	Aurora
PART NO.	10038845 	10026005 
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating Anti-fog coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating Anti-fog coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Rubber tipped temples and nosebridge for comfortable, yet secure fit 	<ul style="list-style-type: none"> Clear lens Ratchet temple adjustment Single, 7-base wrap curve lens

		
MODEL	Blockz	Pyrenees
PART NO.	10106379 	10033718
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating Anti-fog coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Brow shelf prevents debris from falling into eyes Sliding temple adjustment 	<ul style="list-style-type: none"> Clear lens Full side protection Dual injected, soft-tipped temples

	
MODEL	Voyager
PART NO.	10065849 
FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> Clear lens Single wrap-style lens

¹ CSA International certified models are denoted with a  symbol

Sightgard Safety Glasses

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

Material: Polycarbonate, indoor/outdoor or light mirroring

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

	
MODEL Arctic	MODEL Arctic Elite
PART NO. 10008179	PART NO. 10059671
SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Anti-scratch coating • Anti-fog coating • Maximum UV protection (U6) 	SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Anti-fog coating • Maximum UV protection (U6)
STYLING <ul style="list-style-type: none"> • Blue mirror reduces glare w/o causing color degradation • Popular, lightweight model • Full side coverage 	STYLING <ul style="list-style-type: none"> • Indoor/outdoor mirror allows workers to go from bright to low light conditions • Rubber tipped temples and nosebridge for comfortable, yet secure fit


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



A common misconception is that all polycarbonate blocks UV. This is not the case. If UV filtration claims are made by a manufacturer, under ANSI/ISEA Z87.1-2015, applicable UV filtration markings must be placed on product.

Outdoor

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

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






Material: Polycarbonate






Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)


Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

	
MODEL Arctic	MODEL Arctic Elite
PART NO. 697515 	PART NO. 10038846  
SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Anti-scratch coating 	SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Anti-fog coating
STYLING <ul style="list-style-type: none"> • Gray tint lens • Popular, lightweight model • Full side coverage 	STYLING <ul style="list-style-type: none"> • Gray tint lens • Rubber tipped temples and nosebridge for comfortable, yet secure fit

	
MODEL Easy Flex	MODEL Easy Flex
PART NO. 10070918  	PART NO. 10070921 
SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Tuff Stuff Anti-scratch Coating 	SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Tuff Stuff Anti-scratch Coating
STYLING <ul style="list-style-type: none"> • Gray tint lens • Temples flex for a custom fit 	STYLING <ul style="list-style-type: none"> • Rich-orange mirrored lens reflects light and reduces glare without color degradation • Temples flex for a custom fit

	
MODEL Luxor	MODEL Pyrenees™
PART NO. 697517 	PART NO. 10033719  
SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Tuff Stuff Anti-scratch Coating 	SAFETY FEATURES <ul style="list-style-type: none"> • Impact-rated (Z87+) • Anti-fog coating
STYLING <ul style="list-style-type: none"> • Gray tint lens • Horizontal temple adjustment • Wrap-style single lens 	STYLING <ul style="list-style-type: none"> • Gray tint lens • Full side protection • Dual-injected soft-tipped temples • Single wrap-style lens

¹ CSA International certified models are denoted with a  symbol

Sightgard Safety Glasses

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




Material: Polycarbonate

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

		
MODEL	Feather Fit	Nuevo Wrap
PART NO.	10106384 	10106385 
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Maximum UV protection (U6) 	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating Maximum UV protection (U6)
STYLING	<ul style="list-style-type: none"> Gray tint lens Comfortable rubber flange nosepiece Rubber temple grips help glasses stay put under hot working conditions 	<ul style="list-style-type: none"> Gray tint lens Stylish, full wrap coverage

		
MODEL	Voyager	Racer Red
PART NO.	10065850 	10106381
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-scratch coating Maximum UV protection (U6) 	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating Maximum UV protection (U6)
STYLING	<ul style="list-style-type: none"> Gray tint lens Single lens 	<ul style="list-style-type: none"> Rich-red mirrored lens reflects light and reduces glare without color degradation Ideal for utility, aviation, mining, and transportation markets Sporty, single, wide-wrap lens



Under ANSI/ISEA Z87.1-2015 there is a required marking if the manufacturer claims protection from UV. Look for eyewear that both meets ANIS/ISEA Z87.1-2015 and has a U mark.

Over-the-Glasses

Markets: Facility safety, maintenance, repair and operations, overhaul, general industry, manufacturing, construction, oil and gas, metalworking, automotive

Applications: Assembly and mechanical, drilling, grinding, machining, masonry, power fastening, riveting, sanding, sawing

Material: Polycarbonate


Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)


Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

		
MODEL	OvrG™	OvrG II
PART NO.	10110419	10118475 
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Maximum UV protection (U6)
STYLING	<ul style="list-style-type: none"> Clear lens For use over small-to-medium Rx glasses Integral nosepad for added comfort 	<ul style="list-style-type: none"> Clear lens For use over small-to-medium Rx glasses Squared-off, stylish look 30% lighter weight than standard visitor specs

		
MODEL	OvrG II	Rx Overglasses
PART NO.	10118476 	10008175 
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Maximum UV protection (U6) 	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating
STYLING	<ul style="list-style-type: none"> Indoor/outdoor mirrored lens For use over small-to-medium Rx glasses 	<ul style="list-style-type: none"> Clear lenses Fits over most Rx glasses Horizontal and vertical temple adjustment

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

¹ CSA International certified models are denoted with a  symbol

Sightgard Safety Glasses

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



Material: Polycarbonate

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

		
MODEL	Easy Flex	Pyrenees
PART NO.	10070919	10033740
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Tuff Stuff Anti-scratch Coating 	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating
STYLING	<ul style="list-style-type: none"> Amber lens increases contrast in low light Temples flex for a custom fit 	<ul style="list-style-type: none"> Amber lens increases contrast in low light Full side protection Dual-injected soft-tipped temples

	
MODEL	Yellow Jacket™
PART NO.	10106386 
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Maximum UV protection (U6)
STYLING	<ul style="list-style-type: none"> Amber gradient lens enhances perception under changing conditions of light and shadow Full side protection

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

Material: Polycarbonate

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

	
MODEL	Pyrenees MAG
PART NO.	10068832 1.5 bifocal magnification 10065847 2.0 bifocal magnification
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+) Anti-fog coating
STYLING	<ul style="list-style-type: none"> Clear lenses Full side protection Dual-injected soft-tipped temples

Welding

Markets: General industry, manufacturing, construction, oil and gas, forestry, shipbuilding, metalworking; automotive, aviation

Applications: Welding, chiseling, drilling, grinding, machining, masonry, pouring/casting, power fastening, riveting, sanding, sawing


Material: Polycarbonate

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3 (as noted)

Certification: Third-party by ICS and CSA International

Minimum Order Qty: 12

	
MODEL	Clearvue® IR
PART NO.	10012847
SAFETY FEATURES	<ul style="list-style-type: none"> Impact-rated (Z87+)
STYLING	<ul style="list-style-type: none"> Classic look with Infrared (IR) radiation eye protection, up to Shade 5 Fits over most Rx glasses Integral, vented side shields

¹ CSA International certified models are denoted with a  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

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3

Ratings: Impact (Z87+) and Splash-rated (D3)

Certification: Third-party by ICS and CSA International

			
MODEL	Sightgard Vertoggle™ Safety Goggles/ Faceshield Combination	FlexiChem iV	Clearvue 200
PART NO.	10150069  	10106281 	10029693 
FEATURES	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog/anti-scratch coating on goggle lens 	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating 	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Clear polycarbonate lens • Frosted polycarbonate faceshield • Soft, pliable goggle body helps ensure all-day comfort • Unique, articulated lift-front retains the shield on the goggle in any of five positions • Indirect venting on goggle and faceshield improve airflow while providing splash and high impact protection • Entire assembly tested at ANSI/ISEA Z87.1-2010 faceshield impact speed (300 ft/sec) • Fully adjustable FR-tested (CSA Z94.3 test methodology) elastic strap prevents hair pulling • Disposable respirators can be worn under shield • Designed to work with MSA goggle retainers • Minimum order quantity: 5 	<ul style="list-style-type: none"> • Clear acetate lens resists warping, cracking and crazing from chemical splash • Flame-retardant strap • Soft, pliable goggle body ensures all-day comfort • Indirect vent helps eliminate fogging while retaining splash resistance • Minimum order quantity: 6 	<ul style="list-style-type: none"> • Clear polycarbonate lens • Indirect vent helps eliminate fogging while retaining splash resistance • Smoke frame helps reduce peripheral light, reducing glare • Minimum order quantity: 6

¹ CSA International certified models are denoted with a  symbol

Sightgard Safety Goggles

Standards¹: ANSI/ISEA Z87.1-2015 and CSA Z94.3

Ratings: Impact (Z87+) and Splash-rated (D3)

Certification: Third-party by ICS and CSA International

MODEL	Vault	Sightgard NV	Sightgard iV
PART NO.	10106282	10106268	10106270
FEATURES	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating 	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating • Tuff Stuff Anti-scratch Coating 	<ul style="list-style-type: none"> • Impact-rated (Z87+) • Splash-rated (D3) • Anti-fog coating • Tuff Stuff Anti-scratch Coating
PRODUCT SPECIFICS	<ul style="list-style-type: none"> • Modern styling • Comfortable, thick strap • Minimum order quantity: 6 	<ul style="list-style-type: none"> • Non-vented for tighter seal • Minimum order quantity: 12 	<ul style="list-style-type: none"> • Indirect-venting helps keep goggles fog-free • Minimum order quantity: 12

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"> • Sturdy neoprene-rubber accessory • Can be used with any protective cap or hat • Retains goggle on headwear when not in use • Holds goggle securely when worn for eye protection. <p>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.</p>	<ul style="list-style-type: none"> • Holds eyewear securely • Lanyard strap slides over temple • Pkg of 12 	<ul style="list-style-type: none"> • 4 Oz. bottle 	<ul style="list-style-type: none"> • Pre-moistened • Box of 100

¹ CSA International certified models are denoted with a symbol

Great Reasons to Choose MSA Cairns 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.

For complete information about the impact cap for MSA Cairns 1010/1044 Fire Helmets, see Bulletin 3600-05-MC.

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 nation¹, the majority listed MSA Cairns Helmets brand as *best in class*.¹ When you consider the combined effectiveness of our SRS, crumple-zone front holder, impact cap, and suspension—our fire helmets offer the most complete package available.

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 workmanship². 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.MSASafety.com



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





¹Fire helmet brand assessment study conducted by outside research firm for MSA.

²10-year warranty applies to MSA Cairns Helmets manufactured on or after January 1, 2015. For MSA Cairns Fire Helmet warranty details, please see www.MSASafety.com.

1010 & 1044 Helmets


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

		FEATURES	BENEFITS
660C Metro Helmet <i>(shown with Defender Visor)</i>	Invader 664 Helmet <i>(shown with Defender Visor)</i>	Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
FOR STRUCTURAL AND PROXIMITY FIREFIGHTING <ul style="list-style-type: none"> • Most popular modern helmet models • Sleek, low-profile design: <ul style="list-style-type: none"> • 660C Helmet: painted high-luster finish • 664 Helmet: unpainted matte finish • Certified to NFPA 1971 • Certified for proximity firefighting (with bonnet, shroud and gold-coated faceshield) • Hat sizes: 6$\frac{1}{2}$ to 8$\frac{3}{8}$ 		Impact Cap	Provides superior thermal and impact protection
		Shell Release System	Retain your impact cap and earlaps if your helmet shell is torn away during a fall or structural collapse
		Defender Visor Retractable Eye Protection	Deploys easily when you need it, stores securely inside your helmet shell when you don't
		Adjustable Ratchet Height	Allows for comfortable, secure fit due to three ratchet height positions
		Adjustable Headband Height	Ensures perfect fit between your helmet and SCBA mask
		D-ring Helmet Hanger	Fits on large hooks and resists bending
Nomex Chinstrap	Enhances safety, performance and fit due to Quick-Release buckles, Postman's Slide and Velcro stowage system.		

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

Commando HP3® Helmets

	FEATURES	BENEFITS
	Through-color Fiberglass Composite Shell*	Maintains color even after taking a beating on the fireground
	Impact Cap	Provides superior thermal and impact protection
	Shell Release System	Retain your impact cap and earlaps if your helmet shell is torn away during a fall or structural collapse
	Defender Visor Retractable Eye Protection	Deploys easily when you need it, stores securely inside your helmet shell when you don't
	Adjustable Ratchet Height	Allows for comfortable, secure fit due to three ratchet height positions
660C Metro Helmet <i>(shown with Defender Visor)</i>	Adjustable Headband Height	Ensures perfect fit between your helmet and SCBA mask
FOR STRUCTURAL FIREFIGHTING AND URBAN SEARCH AND RESCUE (USAR)	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.
<ul style="list-style-type: none"> • Same shell as 660C Helmet with back watershed trimmed • Lightest fiberglass helmet • Painted high-luster finish Certified to NFPA 1971 and 1951 <ul style="list-style-type: none"> • Sleek, low-profile design • Hat sizes: 6¾ to 8¾ 		

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 www.MSASafety.com.

Part No.	Model	Color	Features
1010DSR	Cairns 1010	Red	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
1010DSY	Cairns 1010	Yellow	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
1010DSB	Cairns 1010	Black	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
1044DSR	Cairns 1044	Red	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
1044DSY	Cairns 1044	Yellow	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
1044DSB	Cairns 1044	Black	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
660DSR	660C Metro	Red	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
660DSY	660C Metro	Yellow	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
660DSB	660C Metro	Black	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
664DSR	Invader 664	Red	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
664DSY	Invader 664	Yellow	With clear Defender Visor, yellow Nomex earlap, chinstrap with Postman's Slide and lime/yellow Reflexite trim
664DSB	Invader 664	Black	With clear Defender Visor, 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.




Front Pieces

Design your own front piece 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.

- More than 27 million possible configurations
- 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

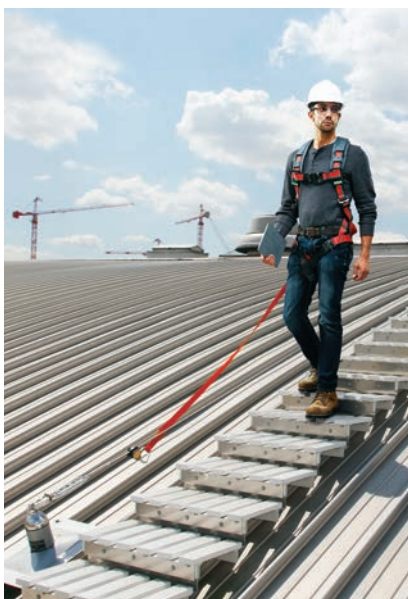


Select Replacement Parts

Part No.	Description	 Cairns 1010 & 1044 Helmets	 660C Metro & Invader 664 Helmets	 Commando HP3 Helmets
DEFENDER VISOR				
10077117	Clear lens	■	■	■
10077118	Amber Tuffshield lens	■	■	■
SOFT GOODS KITS				
10160548	Soft Goods Kit: Standard liner, yellow Nomex ear lap, Velcro tabs, mesh laundering bag		■	■
10160549	Soft Goods Kit: Standard liner, black Nomex ear lap, Velcro tabs, mesh laundering bag		■	■
10172739	Soft Goods Kit: Standard liner, yellow Nomex ear lap, Velcro tabs, mesh laundering bag	■		
10172740	Soft Goods Kit: Standard liner, black Nomex ear lap, Velcro tabs, mesh laundering bag	■		
EARLAPS				
I655XP	Yellow Nomex earlap	■	■	■
I655AP	Yellow Nomex earlap w/under-chin extension	■	■	■
I655Gp	Black Nomex earlap	■	■	■
10124742	Black Nomex earlap w/under-chin extension	■	■	■
I955P	PBI/Kevlar earlap	■	■	■
I955AP	PBI/Kevlar earlap w/under-chin extension	■	■	■
I945P	PBI/Kevlar bloodborne pathogen- resistant earlap	■	■	■

Fall Protection

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Personal Protective Equipment	pages 144–187
MSA Safety Training Courses	pages 188–189



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

NEED IT NOW Delivery Program

Need it NOW! is MSA's fall protection stocking and delivery program that includes the most popular products for key industries such as construction, utilities, oil, gas and petrochemical, and general industry.

Program Rules

- Level I **1** items include MSA's most popular fall protection products and ship same day or next if order is received and entered by 12PM.
- All orders shipped ground unless otherwise specified on the customer order.
- All standard order terms and conditions apply.
- MSA reserves the right to limit the quantity of products ordered through this program.

Exclusions

- Ship complete orders are excluded from the program
- Will-Call orders are excluded from the program
- Customers not in good credit standing (orders that go to credit hold)
- Orders with multiple shipping locations
- Shipments outside of the US and Canada

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.

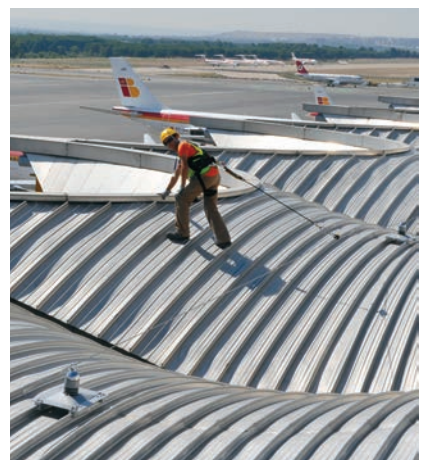
Simply put: MSA is fluent in the global language of fall protection.

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 or visit 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.



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

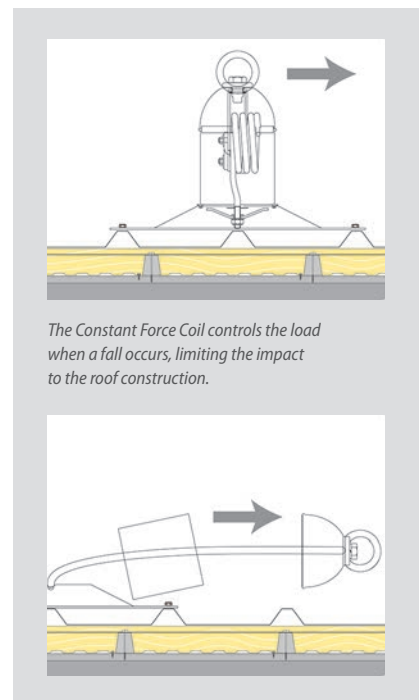
In typical leadership fashion, MSA takes the science of Latchways Constant Force and applies it to the fall protection industry—providing an easy-to-install, reliable and cost-effective solution to rooftop safety.

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.



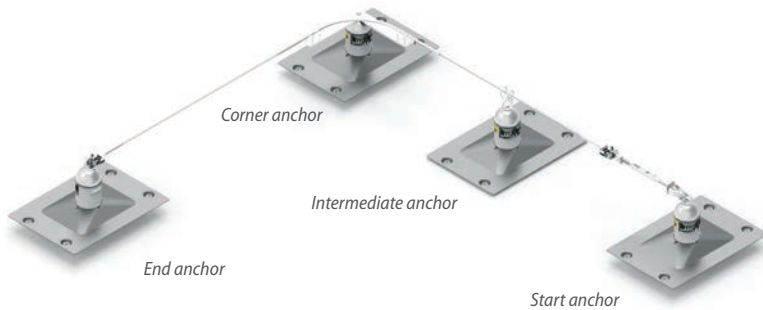
The Constant Force Coil controls the load when a fall occurs, limiting the impact to the roof construction.

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>Turnbuckle Assembly</p>	<p>Swage & Clevis</p>	<p>90° Corner Bracket</p>	<p>Variable Bracket</p>	<p>D-Ring & Hanger</p>	<p>Entry Terminal</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 p. 123 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.

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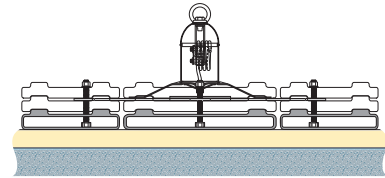
Latchways Horizontal Lifelines (HLL)



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.

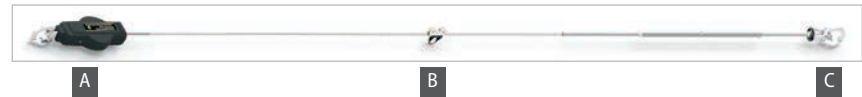
The Latchways range of overhead systems house Constant Force technology in an in-line energy absorber, so if a worker connected to the system should fall, the Constant Force energy absorber controls the load back to the structure. Simply put, it's a smartly designed system precisely engineered to react 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)



A



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).


B



Overhead System Mobile Anchorage

Allows an SRL to be connected to the overhead system.

C



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).


D



Mobile Anchorage

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

E



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.

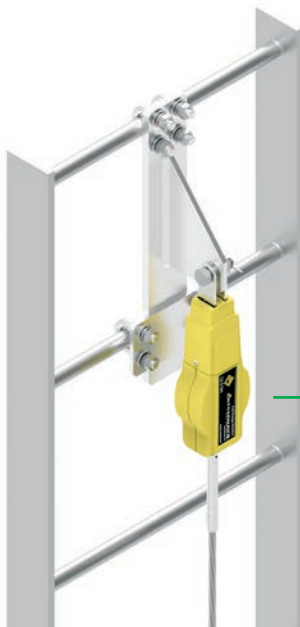


Fixed ladder systems use the LadderLatch attachment device. See p. 123 for more information.

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

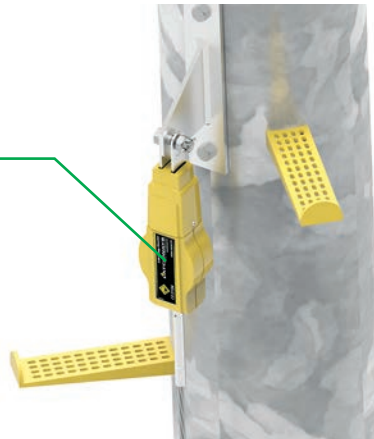
MSA always searches for ways to satisfy our customers' fall protection needs. One great example of this is our MonoStep removable step system, developed in response to telecom companies' need for unobtrusive, tamper-proof climbing systems for their monopole structures. The Latchways MonoStep is an ideal 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.



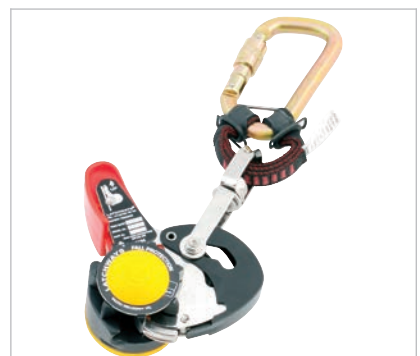
MonoStep

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 p. 123 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 p. 123 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



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.



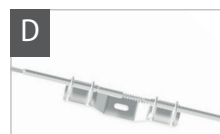
Cable

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 p. 123 for more information.



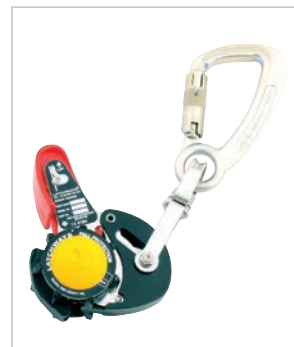
Latchways Inclined Systems

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.



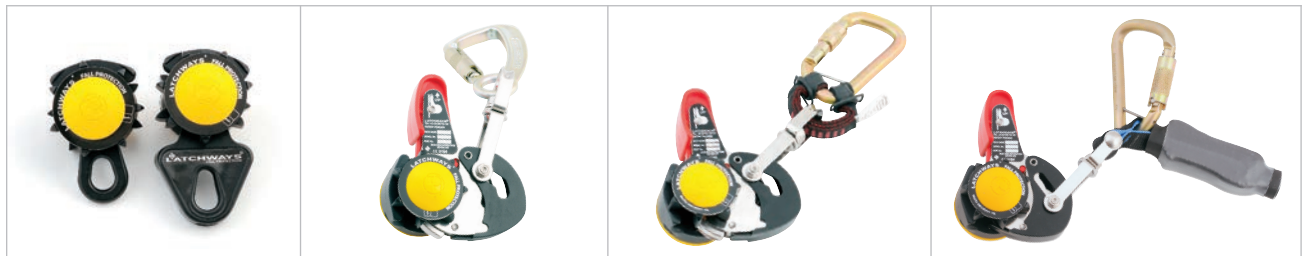
ClimbLatch attachment device.
See p. 123 for more information.



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



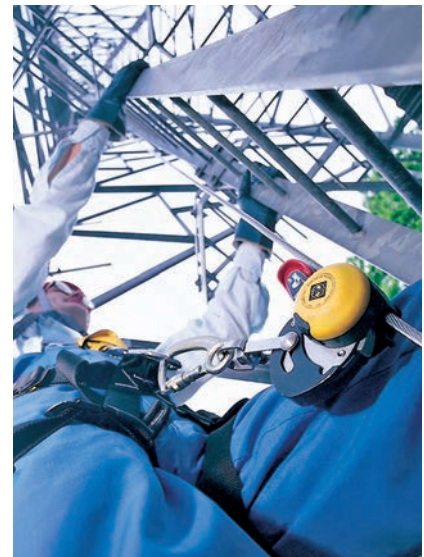
BridgeLatch

- Latchways BridgeLatch device secures the user to the lifeline cable on inclines that run between 0° and 70°.
- Featuring our groundbreaking starwheel mechanism that rotates freely over intermediate cable supports and brackets, the BridgeLatch's intelligent engineering means you don't have to disconnect the unit and risk potential accidents or loss in productivity.
- The result is remarkable freedom of movement and hands-free operation so users can do their best, most confident work.



ClimbLatch

- The ClimbLatch device has many similar features of the LadderLatch and TowerLatch but is designed to be used on an inclined system—suitable for inclines between 0° and 40°.

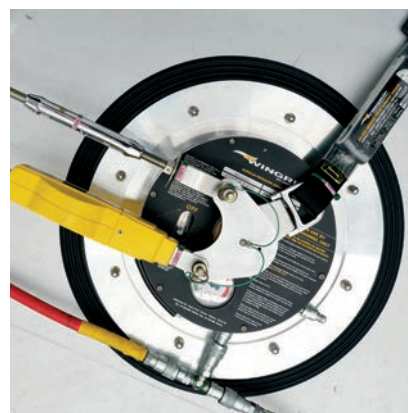


Latchways WinGrip® Vacuum Anchor

Latchways WinGrip Vacuum Anchor is a fall protection system developed for use in the maintenance and manufacturing of aircraft.

As flexible as it is safe, a WinGrip Anchor can be fixed to wings, fuselage or stabilizers. The system is quick to install, easy to use and suitable for work inside the hangar, or outside, on the apron. Originally developed in collaboration with aircraft engineers seeking revolutionary new ways to protect workers at height, the first WinGrip vacuum anchor systems were delivered to British Airways in 1999. These first single-user systems gave the industry a time saving, cost-cutting lift by delivering fall protection in a radius around the anchor, in virtually any location on the aircraft—and they're still being used today. In fact, these days the WinGrip product is so ubiquitous, you'll find it in the aircraft maintenance manuals of both Boeing and Airbus.

Latchways WinGrip aerospace line consists of four different products—each with its own unique benefits that accommodate ever-evolving customer needs and ever-changing legislative requirements.



WinGrip at a Glance

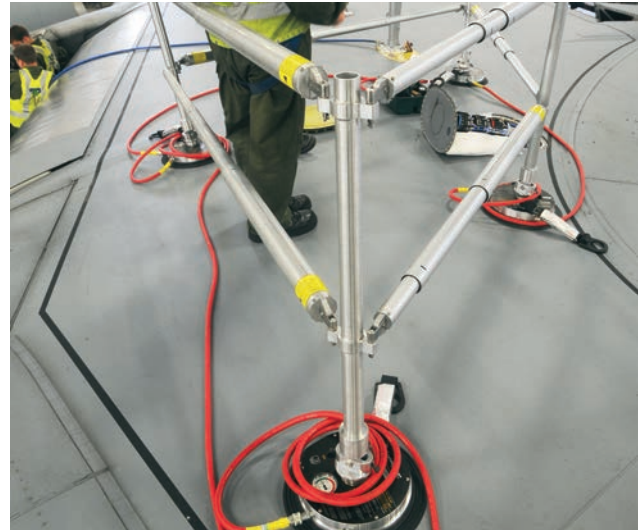
- Lightweight and portable anchors weigh less than 13 lbs (5.9 kg).
- Suitable for wet or dry surfaces, inside hangars, or on the apron
- Intrinsically safe, even with fuel tanks open—runs on compressed air or nitrogen; no electrical requirements
- Approved and used by all major aircraft manufacturers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

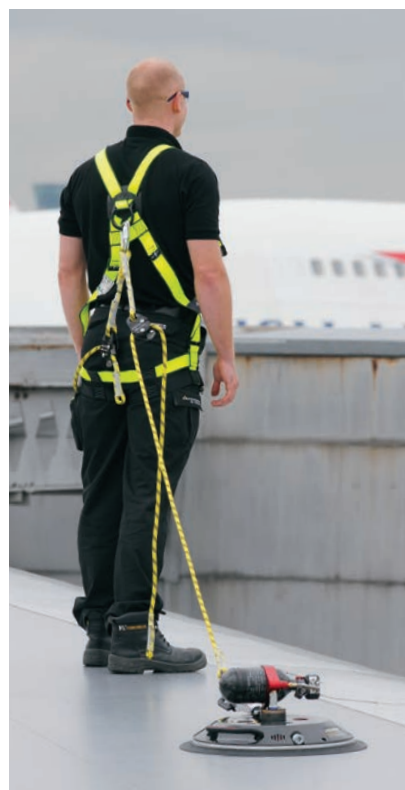
The system consists of two end-anchor vacuum anchors with cables spanning between them, and intermediate anchors as needed to suit any cable length. Each anchor is positioned and vacuum-locked in place, with stainless-steel safety cables connected and tensioned at one end. Workers connect to the cable 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.

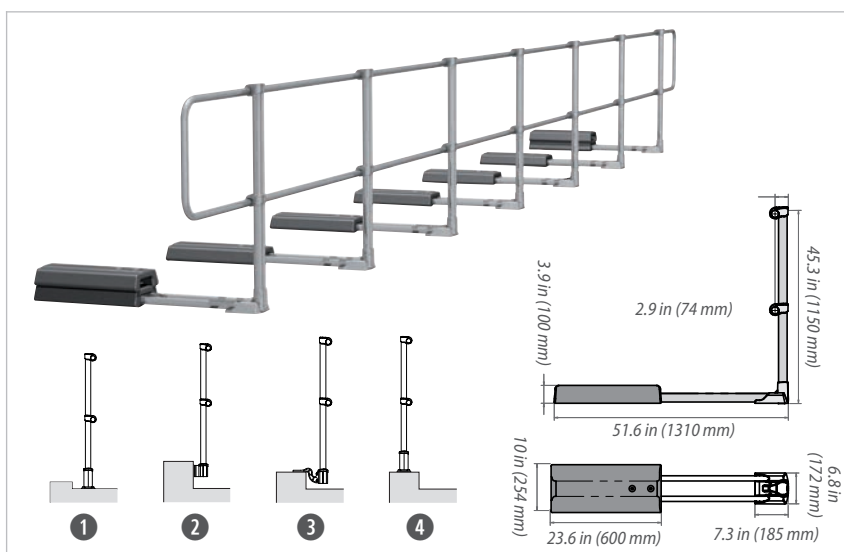
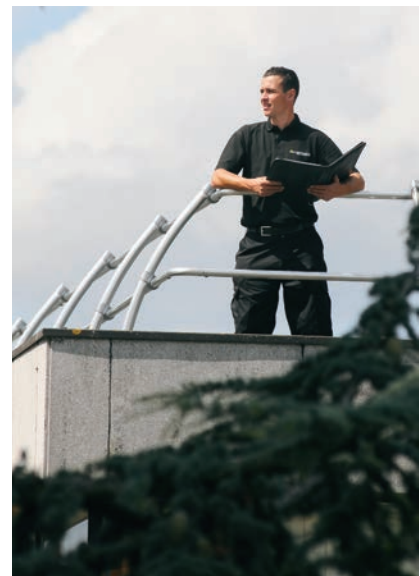
Other scenarios where passive fall protection comes into play include areas where workers have frequent and regular access to locations, environments where tasks may take longer, and situations where workers aren't required to participate in personal protection equipment training.

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

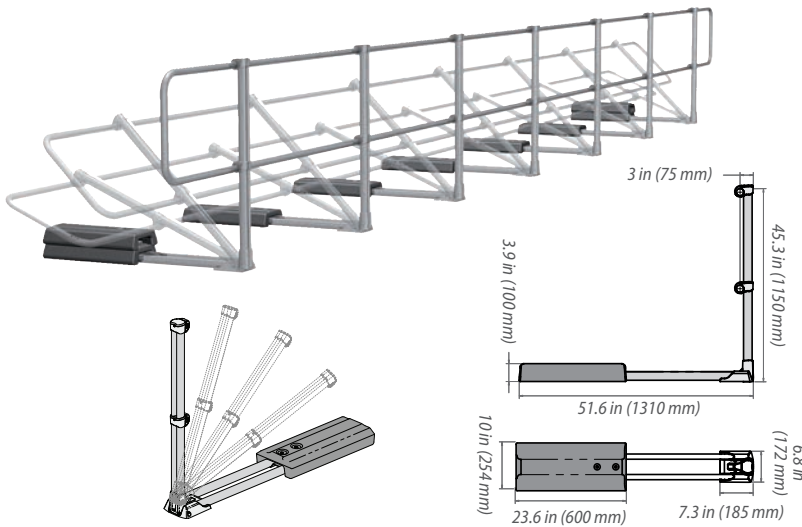
Classic design for a perfect fit

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:

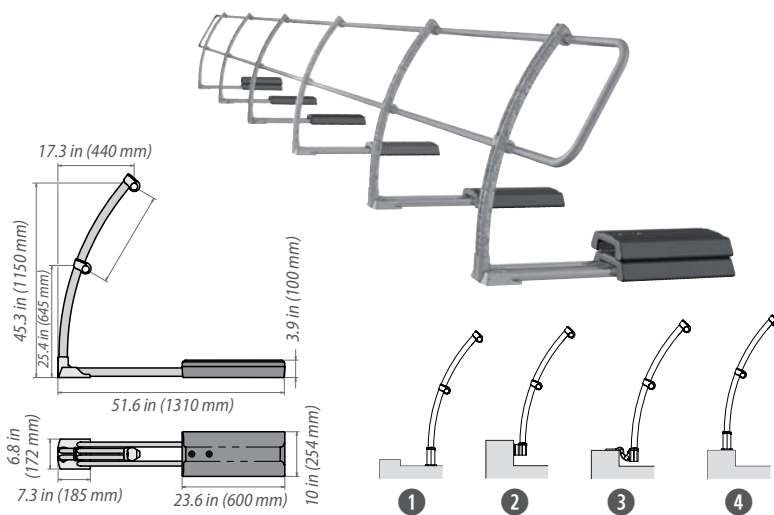
- 1 Slab mounting plate
- 2 Wall mounting plate
- 3 Z-type mounting plate
- 4 Parapet mounting plate

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.

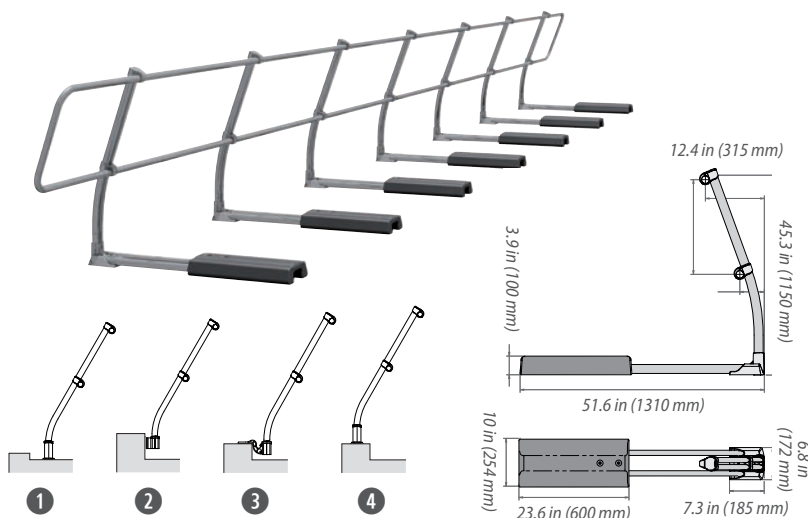


Curved Upright

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>Corner sections</p>	<p>Connecting elements</p>	<p>Closure bends</p>	<p>Access gate</p>	<p>Toeboard</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>Slab mounting plate</p>	<p>Wall mounting plate</p>	<p>Z-type mounting plate</p>	<p>Parapet mounting plate</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

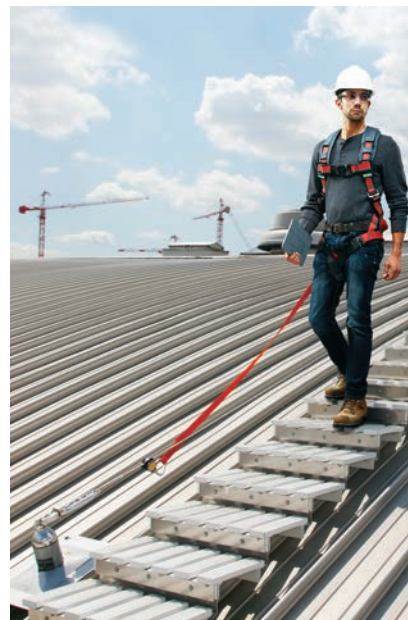
Often it's necessary (and good business) to install a fall protection system that offers maximum safety even in the face of minimal danger. WalkSafe walkway systems attach to rooftops to create a level, anti-slip surface that keeps workers protected against potential fall hazards. In addition to offering 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.

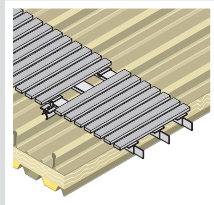
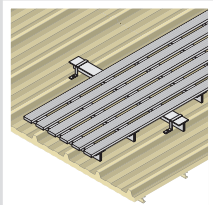
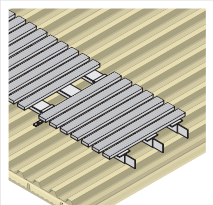
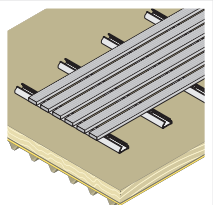
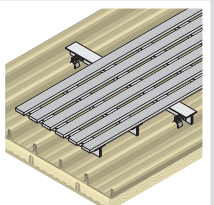
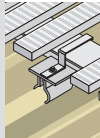
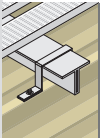

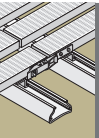
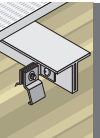
The orientation of the WalkSafe planks within a system is described as either shortways (running across the roofing profile) or longways (running with the roofing profile).

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.

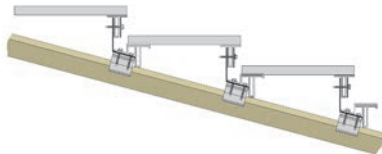
WalkSafe Walkway Systems Fixing Options

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

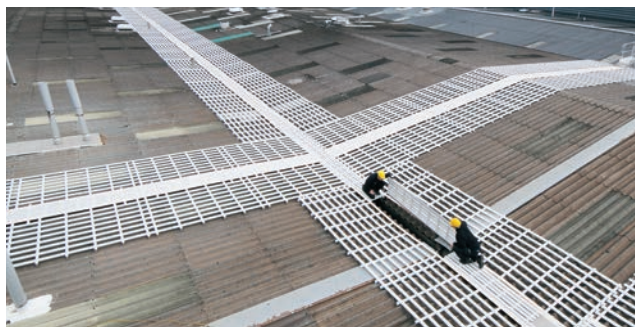
WalkSafe's design flexibility allows it to be used as leveled walkways, providing safe access to all parts of the roof on slopes up to 15°, or as steps on steeper gradients.



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

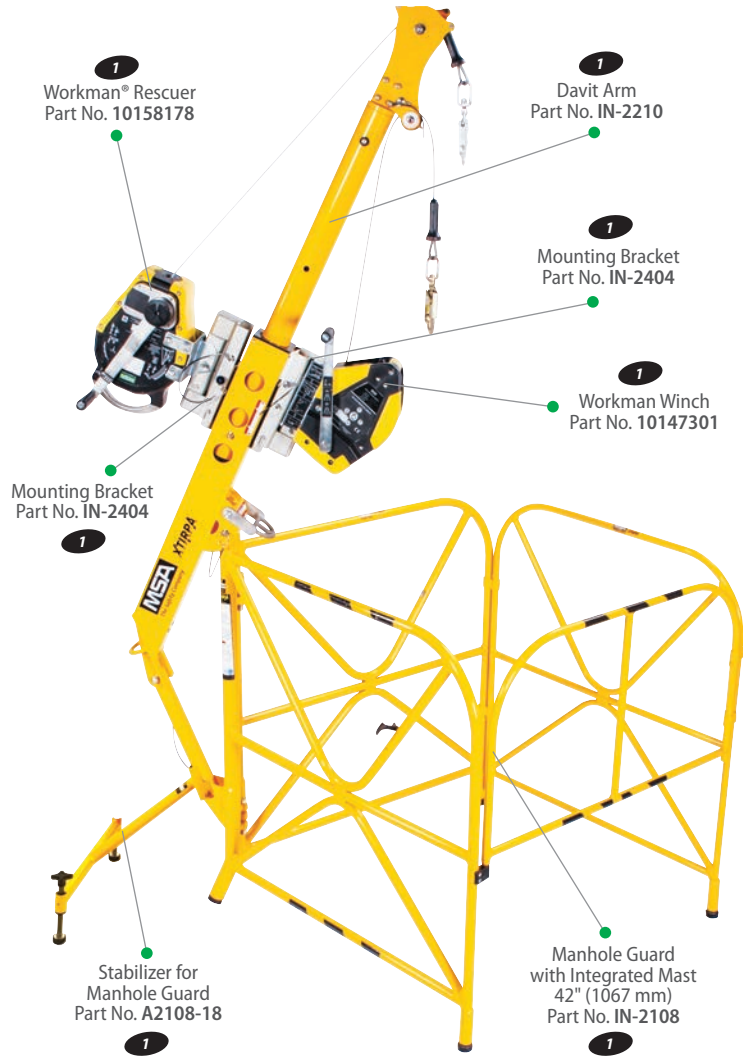
- Used for confined space vertical entry and fall protection when portable base is needed
- Barricades exposed entry points while providing necessary strength needed for fall protection, entry and retrieval applications
- Davit arm and manhole guard with integrated mast interface allows for reduced material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

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

For rescuer, winch and mounting bracket ordering information, see p. 143.

MSA XTIRPA Adapter Base System—24" Reach

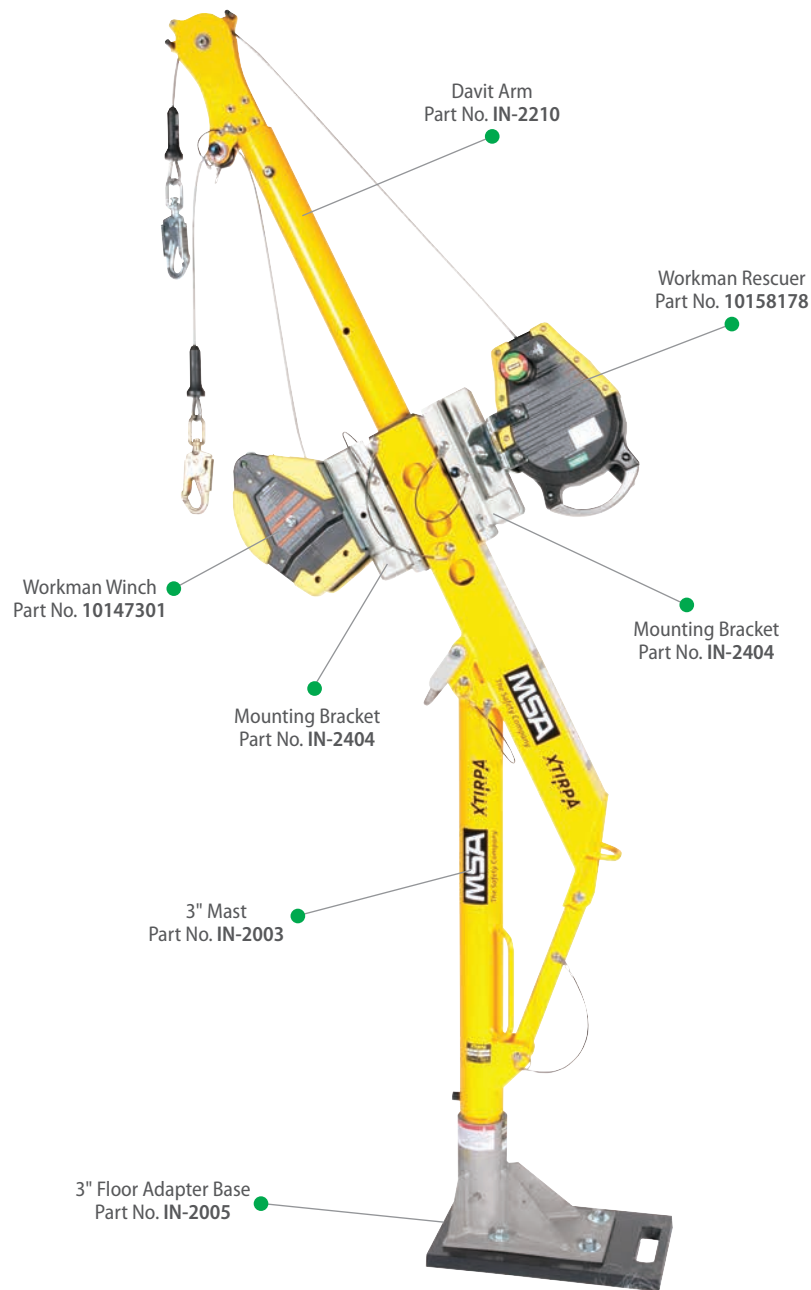
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Many different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

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

				
Davitt Arm 24" Reach	3" Diameter Mast	Mast Extension	3" Floor Adapter Base	3" Flush Floor Adapter Base
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
				
3" Fresh Concrete Floor Adapter Base	3" Center Mount Floor Adapter Base	3" Wall Adapter Base	3" Mural Adapter Base w/8" Offset	3" Mural Adapter Base w/14" Offset
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
				
3" Top Wall Adapter 90°	3" Exterior Corner Wall Adapter Base	3" Interior Corner Wall Adapter Base	Mural Wall Angular Adapter	3" Sleeve Adapter Base
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
				
3" Barrel Adapter Base	3" Barrel Adapter Base 2" to 5"	3" H-Beam Adapter Base	Fall Arrest and Rescue Link Adapter	Wire Rope Link
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
				
Warning Post	3" Adapter Cap	3" Adapter Cap with SST Wire	Reinforcement Plates	
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	
Threaded Rod Kit 3/4-10 x 12"	Threaded Rod Kit 3/4-10 x 12"			
IN-2174	IN-2212			
OSHA	OSHA			

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

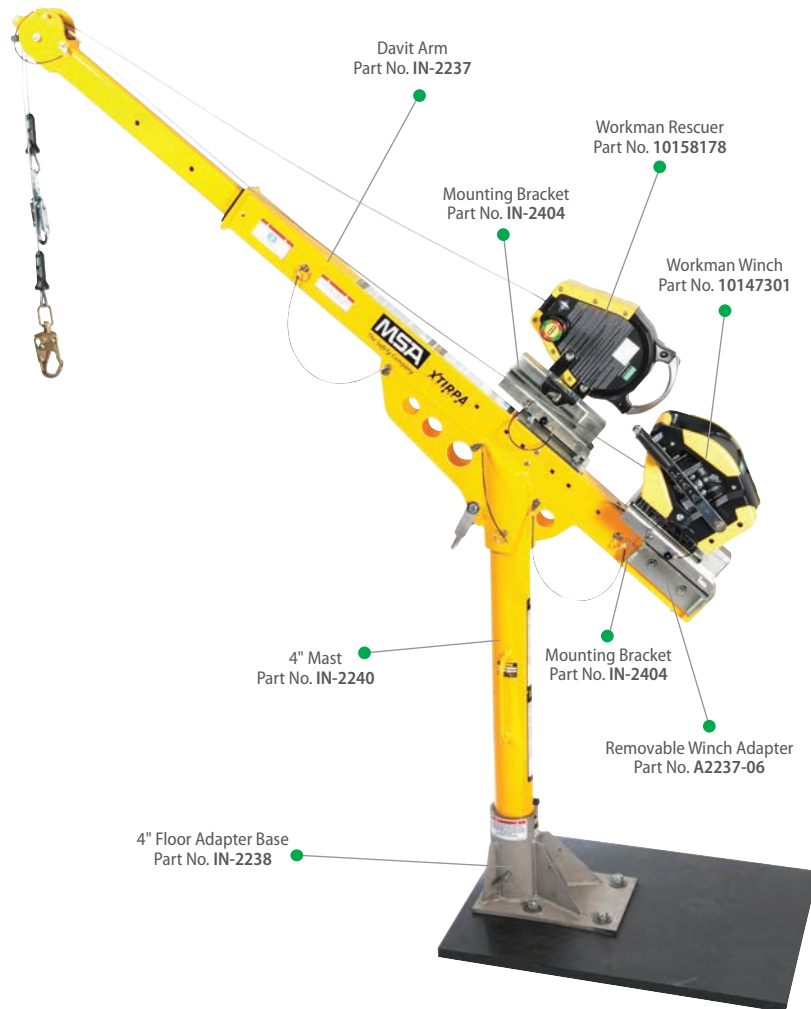
- Used for confined space vertical entry and fall protection when fixed base is needed
- Adapter base permanently affixed to existing structure
- Different adapter base options can accommodate any work environment
- Designed for work areas that require regular setup and teardown

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-2272I	IN-2273	A2238-03
OSHA	OSHA	OSHA	OSHA	OSHA	OSHA

For rescuer, winch and mounting bracket ordering information, see p. 143.

MSA XTIRPA Hitch Mount System

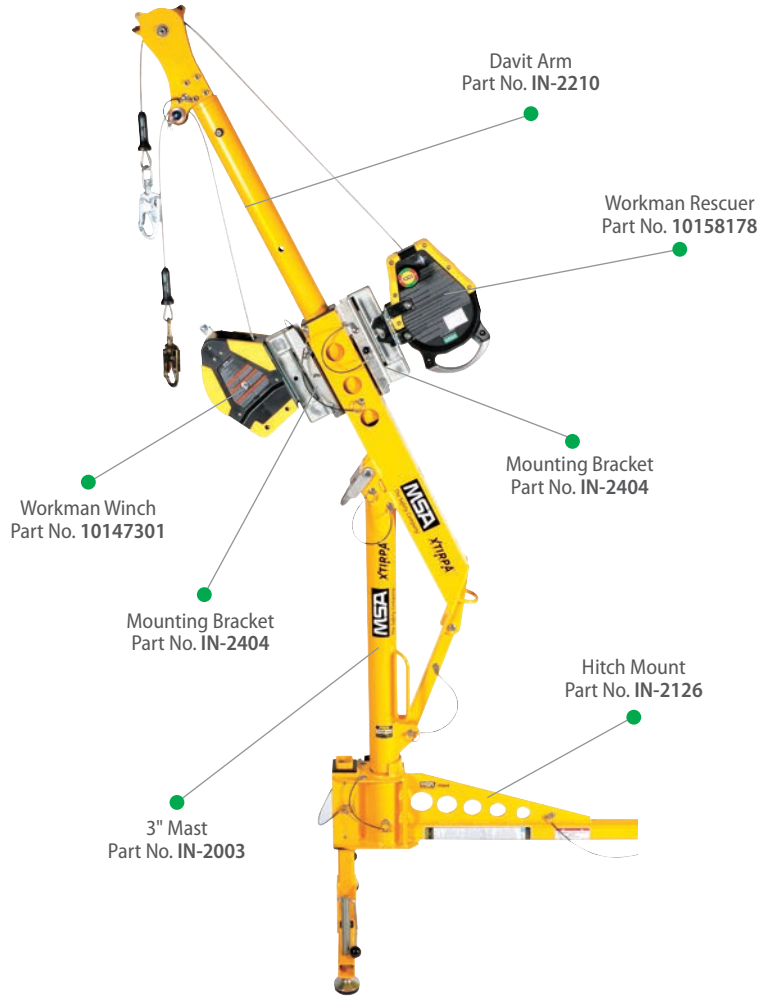
- Used for confined space vertical entry and fall protection when portable base is needed
- Hitch mount can be customized to accommodate variety of confined space applications
- Commonly used with rescue vehicles for confined space rescue

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-2014	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 p. 143.

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

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



Pole Hoist

IN-2337 48–78"
IN-2338 57–102"


OSHA



Adjustable T-Bar

IN-2127 48"
IN-2256 47–75"
IN-2274 12–14"

OSHA



Flange Adapter for Lateral Entry

IN-2242

OSHA



Universal Ring Adapter

IN-2087

OSHA



Jib Adapter for Lateral Entry

IN-2241

OSHA

MSA XTIRPA Manhole Collar System

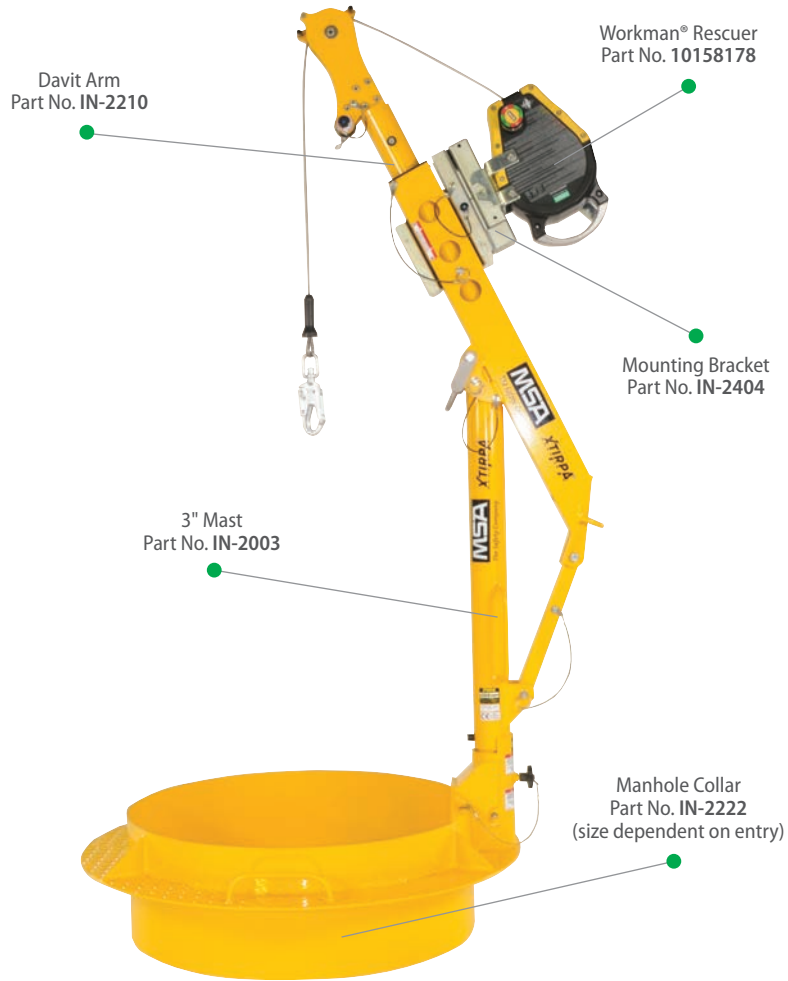
- Used for confined space vertical entry and fall protection when portable base is needed
- Provides adapter base by fitting within manhole opening
- Designed for frequent setup of confined space equipment over similarly-sized openings

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

					
Davit Arm 24" Reach	3" Diameter Mast	Mast Extension	Mast/Davit Arm	Manhole Retaining Ring	Manhole Collar (sizes are for diameter)
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
					
Cone Shaped Safety Ring	Manhole Collar Seat	Hand Rail Attachment for Mast	Ladder Adapter	Positioning Seat	
IN-2009	A2217-10	IN-2282	A2217-05	IN-2244	
OSHA	OSHA	OSHA	OSHA	OSHA	

For rescuer, winch and mounting bracket ordering information, see p. 143.

MSA XTIRPA Adjustable Wall Adapter System

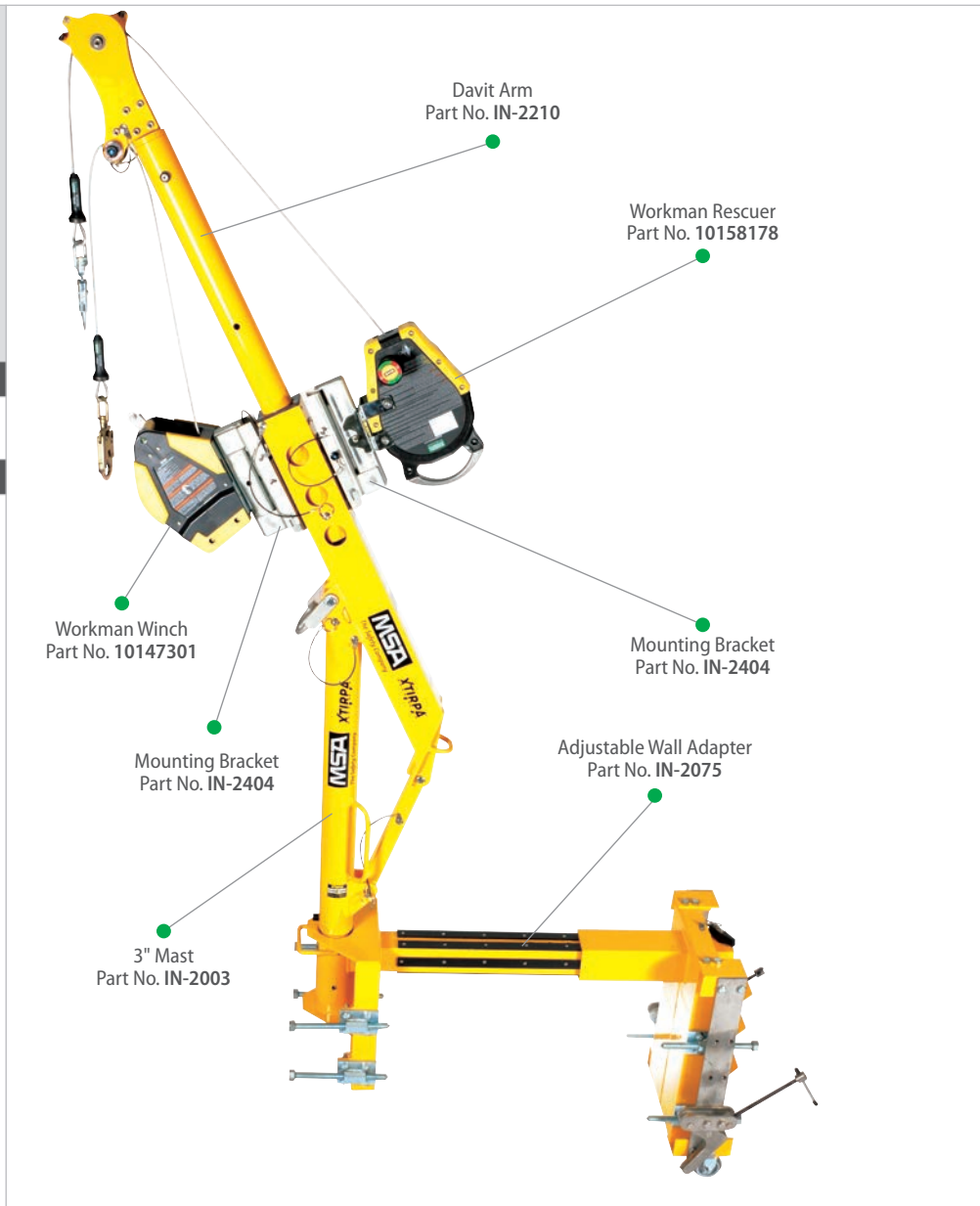
- Used for confined space vertical entry and fall protection when portable base is needed
- Range from 6" to 45" to accommodate wide range of confined space applications
- Designed for frequent setup of confined space equipment

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

				
Davit Arm 24" Reach	3" Diameter Mast	Mast Extension	Mast/Davit Arm	Mast/Davit Arm
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 p. 143.

MSA XTIRPA Counter Weight System

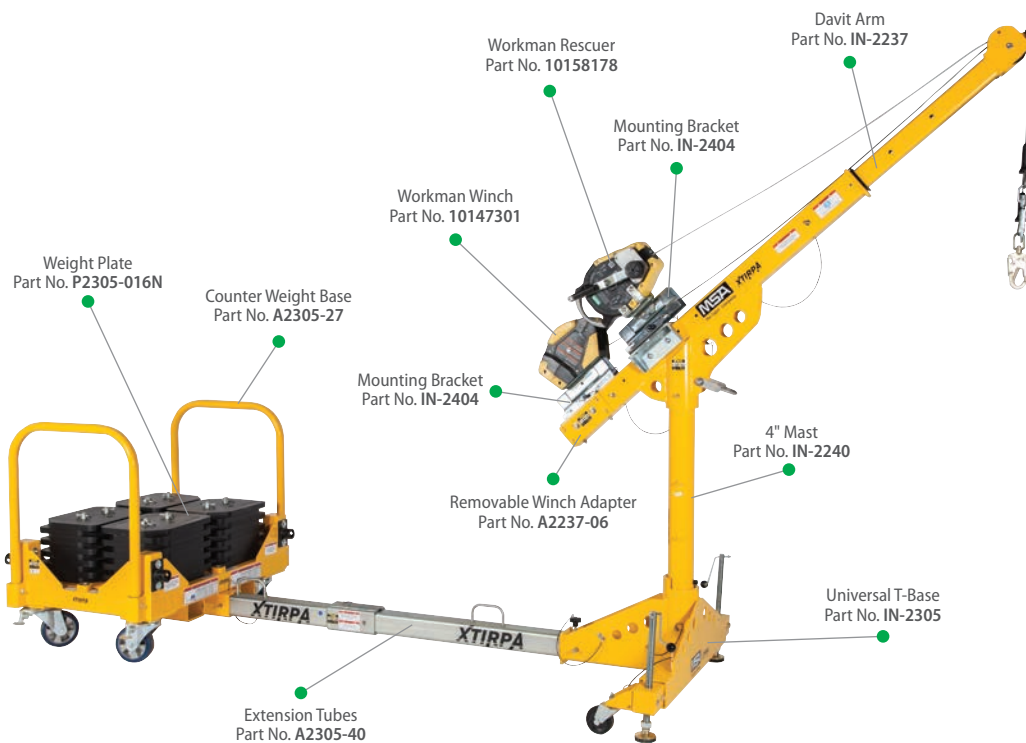
- Used for confined space vertical entry and fall protection when portable base is needed
- System used with Counter Weight Base for counterbalance
- Ideal for movement and access between various confined space entry points in the same area

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	
A2305-16	A2217-10	A2305-40	A2305-25	A2305-29	
OSHA	OSHA	OSHA	OSHA	OSHA	

For rescuer, winch and mounting bracket ordering information, see p. 143.

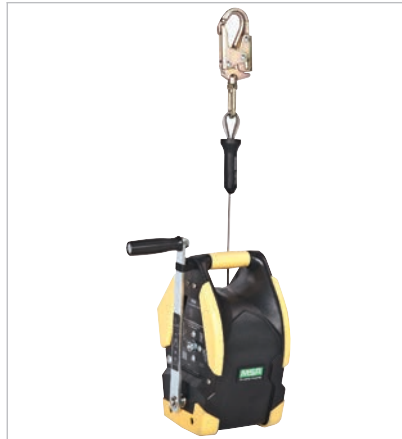
Accessories for XTIRPA Confined Space Products



Workman® Rescuer

10158178 **1**

ANSI Z359.14, OSHA, CSA Z259.2.2



Workman Winch

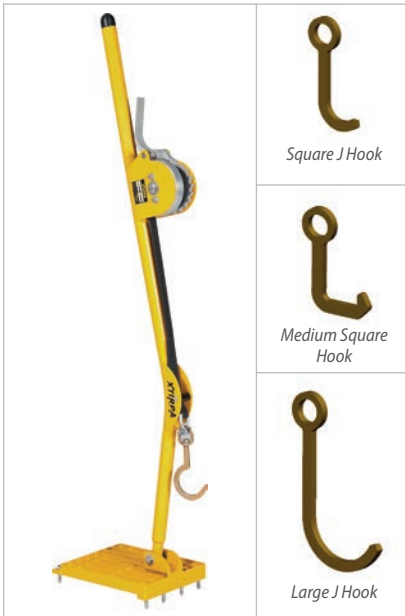
10147301 **1**

OSHA



Mounting Bracket
(Workman)

IN-2404 **1**



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

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

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
1 10163033	■	■	■	2	2	■		■
10163034	■	■		1	1	■		■
10174588	■	■	■	2	2		■	
10174589	■	■		1	1		■	

Replacement Parts and Accessories

10105612	Leg base support strap
10089207	Carabiner
1 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

10158178 Workman Rescuer, stainless steel cable, 50 ft. (16m) – ANSI Z359.14

10158180 Workman Rescuer, stainless steel cable, 50 ft. (16m) – CSA Z259.2.2



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

10153757 Workman Winch, galvanized cable, **65-ft (20m)**

10147301 Workman Winch, stainless steel cable, **65-ft (20m)**

10154686 Workman Winch, galvanized cable, **95-ft (29m)**

10154684 Workman Winch, stainless steel cable, **95-ft (29m)**

10148277 **Synthetic rope** 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

SSH3505017 Bosun Chair, 5" x 16-1/2" padded seat, black nylon



Spreader Bars

PART NUMBER

507130 Spreader bar, 14"

507131 Spreader bar, 22"

EVOTECH® Family of Full Body Harnesses

All products in the MSA EVOTECH Full Body Harness line offer the latest design features to improve user **comfort**, **ease of use**, **durability**, and **safety**.

No binding edge on shoulder padding
prevents neck chafing. Washable shoulder pad is easily added and removed with Velcro

Reflective piping
integrated into harness webbing increases visibility in low-light environments

Patent-pending web management system
provides means of storing excess webbing

Variable-width sub-pelvic webbing
provides 50% more surface area for improved weight distribution, enhancing comfort during work positioning and personnel riding applications

Available with
Quick-Connect buckles
(both steel and aluminum)—
makes connecting and adjusting chest and leg straps quick and easy

Approvals

- OSHA
- ANSI Z359.11
- CSA Z259.11



NanoSphere coating
on webbing repels dirt, grease, moisture, etc.

Dual-color webbing
red pattern on outside, black on inside
simplifies harness donning and promotes easy identification of twisted webbing

Web finials prevent fraying on web ends

RFID chip
provides easy means of tracking and inspecting product

Covered label pack
protects labels from environment

The "BOXER CUT"
Patent-pending leg strap design
conforms and lays horizontally to the user's thighs like a boxer short rather than a 'brief' like all other harnesses on the market. Significantly increases support and protects the user's most precious area in the event of a fall.


EVOTECH LITE Full Body Harness	EVOTECH LITE Construction Harness	EVOTECH Full Body Harness	EVOTECH Construction Full Body Harness	EVOTECH Stainless Steel Full Body Harness	EVOTECH Derrick Full Body Harness	EVOTECH Tower Full Body Harness	EVOTECH Arc Flash Full Body Harness
ADDED FUNCTIONALITY							
20% lighter than standard harness Aluminum hardware	Lightweight with integral backpad and tool belt	Versatile	Integral backpad and tool belt	Resists corrosion	Removable saddle, D-ring extension, and D-ring for positioning	Removable saddle and multiple additional D-rings	Fire-resistant

EVOTECH Family of Full Body Harnesses


EVOTECH Harness Sizing Chart

HEIGHT FT (m)	WEIGHT LB (kg)												
	110 (50)	130 (59)	150 (68)	170 (77)	190 (86)	210 (95)	230 (105)	250 (114)	270 (123)	290 (132)	310 (141)	330 (150)	400 (181)
6'-6" (2.0)	STANDARD					X-LARGE				SX-LARGE			
6'-4" (1.9)	STANDARD					X-LARGE				SX-LARGE			
6'-2" (1.9)	STANDARD					X-LARGE				SX-LARGE			
6'-0" (1.8)	STANDARD					X-LARGE				SX-LARGE			
5'-10" (1.8)	STANDARD					X-LARGE				SX-LARGE			
5'-8" (1.7)	STANDARD					X-LARGE				SX-LARGE			
5'-6" (1.7)	X-SMALL		STANDARD					X-LARGE				SX-LARGE	
5'-4" (1.6)	X-SMALL		STANDARD					X-LARGE				SX-LARGE	
5'-2" (1.6)	X-SMALL		STANDARD					X-LARGE				SX-LARGE	
5'-0" (1.5)	X-SMALL		STANDARD					X-LARGE				SX-LARGE	


Harness Leg Buckle Options




Quik-Fit Buckle



Tongue Buckle



Quick-Connect Buckle



Quick-Connect Aluminum Buckle

EVOTECH Full Body Harness and Construction Harness Assemble-To-Order Matrix

Approval	Style of Harness	D-Ring Configuration	Color	Size	Leg Strap Type	D-Ring Type	Chest Strap Type	Back Connection Type	Padding	Accessories	QUANTITY
A ANSI OSHA	1 Vest Style	1 Back	1 Red	1 SM	1 Quick-Connect	1 Steel	1 Quick-Connect	0 D-Ring only	0 None	0 None	
B ABNT	2 Vest Style Construction, Standard Hip D	2 Back, Chest	3 Hi Viz Orange	2 STD	2 Tongue Buckle		2 Qwik-Fit	1 Sure-Stop Shock Absorber	1 Shoulder Pad	1 Safety Step	
C CSA	3 Vest Style Construction, Cranked Hip D	3 Back, Chest, Hips		3 XL	3 Qwik-Fit			2 Dorsal Extension	2 Leg Pads	2 Medical ID Kit	
	4 Tower w/Saddle, Standard Hip D	4 Back, Chest, Hips, Shoulders		4 SXL				4 Twin-leg PFL Ext	3 Shoulder & Leg Pads	3 Safety Step and Medical ID Kit	
	5 Tower less Saddle, Standard Hip D	5 Back, Hips									
	6 Tower w/Saddle, Cranked Hip D	6 Back, Chest, Shoulders									
	7 Tower less Saddle, Cranked Hip D	7 Back, Shoulders									
	8 Tower w/Wood Saddle, Standard Hip D	8 Back, Hips, Shoulders									
A-EVO						1					

• Harnesses ordered using the ATO System are non-returnable.

EVOTECH Family of Full Body Harnesses



EVOTECH LITE Full Body Harness

Features

- 20% lighter than standard versions
- Lightweight, durable aluminum buckles
- Aluminum D-rings and hardware

PART NO.	D-Ring Configuration				Size				Leg Buckle Type		Chest Strap Type	Standards	
	Back	Back, Hips	Back, Front	Back, Hips, Front	XSM	STD	XLG	SXL	Aluminum Quick-Connect	Tongue Buckles	Quick-Connect	ANSI Z359.11	CSA Z259.10
1 10155574	■				■				■		■	■	■
1 10155559	■					■			■		■	■	■
1 10155575	■						■		■		■	■	■
1 10155576	■							■	■		■	■	■
1 10155577		■			■				■		■	■	■
1 10155578		■				■			■		■	■	■
1 10155579		■					■		■		■	■	■
1 10155580		■						■	■		■	■	■
10164005			■		■				■		■	■	■
10164006			■			■			■		■	■	■
10164007			■				■		■		■	■	■
10164008			■					■	■		■	■	■
10163362				■	■				■		■	■	■
10163363				■		■			■		■	■	■
10163364				■			■		■		■	■	■
10163365				■				■	■		■	■	■
1 10168415	■				■					■	■	■	■
1 10167972	■					■				■	■	■	■
1 10167885	■						■			■	■	■	■
1 10167748	■							■		■	■	■	■
1 10172915		■			■					■	■	■	■
1 10168171		■				■				■	■	■	■
1 10168174		■					■			■	■	■	■
1 10168175		■						■		■	■	■	■
10172916			■		■					■	■	■	■
10172917			■			■				■	■	■	■
10172918			■				■			■	■	■	■
10172919			■					■		■	■	■	■
10172920				■	■					■	■	■	■
10172931				■		■				■	■	■	■
10172932				■			■			■	■	■	■
10172933				■				■		■	■	■	■

EVOTECH Family of Full Body Harnesses

		EVOTECH LITE Construction Full Body Harness									
		Features									
		<ul style="list-style-type: none"> • 20% lighter than standard versions • Lightweight, durable aluminum buckles • Aluminum D-rings and hardware 									
PART NO.	D-Ring Configuration		Size				Leg Buckle Type		Padding	Standards	
	Back, Hips	Back Chest, Hips	XSM	STD	XLG	SXL	Aluminum Quick-Connect	Tongue Buckles	Shoulder & Lumbar	ANSI Z359.11	CSA Z259.10
1	10172966	■		■			■		■	■	■
1	10172967	■			■		■		■	■	■
1	10172968	■				■	■		■	■	■
1	10172969	■					■		■	■	■
	10172970		■	■			■		■	■	■
	10172971		■		■		■		■	■	■
	10172972		■			■	■		■	■	■
	10172973		■				■		■	■	■
1	10172948	■		■				■	■	■	■
1	10172949	■			■			■	■	■	■
1	10172950	■				■		■	■	■	■
1	10172961	■					■	■	■	■	■
	10172962		■	■				■	■	■	■
	10172963		■		■			■	■	■	■
	10172964		■			■		■	■	■	■
	10172965		■				■	■	■	■	■



EVOTECH Family of Full Body Harnesses



EVOTECH Standard Full Body Harness

Features

- Positionable lanyard clip
- 3-position back D-ring allows users to determine optimal lanyard connection position
- Patent-pending single-hand torso adjustment buckles simplify harness adjustment


PART NO.	D-Ring Configuration				Size		Leg Buckle Type			Chest Strap Type		Padding			Accessories		Standards
	Back	Back Hips	Back Chest Hips	Back Chest	Std	XLG	Qwik-Fit	Tongue Buckle	Quick-Connect	Qwik-Fit	Quick-Connect	None	Shoulder	Shoulder & Leg	None	Safety Step	OSHA/ANSI/CSA
10105889	■				■		■			■		■					■
10105890	■					■	■			■		■					■
1 10105931	■				■			■			■		■				■
1 10105932	■					■		■			■		■				■
1 10105940	■				■				■		■		■				■
1 10105941	■					■			■		■		■				■
10105956	■				■			■		■			■				■
10105957	■					■		■		■			■				■
1 10105933		■			■			■			■		■				■
1 10105935		■				■		■			■		■				■
1 10105942		■			■				■		■		■				■
1 10105943		■				■			■		■		■				■
10105950		■			■				■		■			■			■
10105951		■				■			■		■			■			■
10105960		■			■				■		■			■		■	■
10105961		■				■			■		■			■		■	■
10105936			■		■			■			■		■				■
10105939			■			■		■			■		■				■
10105944			■		■				■		■		■				■
10105945			■			■			■		■		■				■
10105948			■		■				■		■			■			■
10105949			■			■			■		■			■			■
10105952			■		■			■			■			■			■
10105953			■			■		■			■			■			■
10105946				■	■				■		■		■				■
10105947				■	■				■		■		■				■


EVOTECH Family of Full Body Harnesses

PART NO.	D-Ring Configuration		Size		Leg Buckle Type		Chest Buckle Type		Padding		Standards
	Back, Hips	Back, Chest, Hips	Std	XLG	Quick-Connect	Tongue Buckle	Quick-Connect	Qwik-Fit	Shoulder	Shoulder & Leg	OSHA/ANSI/CSA
	10112742	■		■		■		■		■	
10112743	■			■	■		■		■		■
10112708	■		■			■	■		■		■
10112709	■			■		■	■		■		■
10112752	■		■			■	■			■	■
10112753	■			■		■	■			■	■
10112754	■		■			■		■	■		■
10112755	■			■		■		■	■		■
1 10112710		■	■			■	■		■		■
1 10112741		■		■		■	■		■		■
1 10112744		■	■		■	■	■		■		■
1 10112745		■		■	■	■	■		■		■
10112746		■	■		■	■	■			■	■
10112747		■		■	■	■	■			■	■
10112750		■	■			■	■			■	■
10112751		■		■		■	■			■	■

PART NO.	D-Ring Configuration		Size				Leg Buckle Type	Padding	Standards		
	Back	Back, Hips	Back, Chest	XSM	STD	XLG	SXL	Tongue Buckles	Shoulder	ANSI Z359.11	CSA Z259.10
	10172927	■			■				■	■	■
10172928	■				■			■	■	■	■
10172929	■					■		■	■	■	■
10172930	■						■	■	■	■	■
10172951		■		■				■	■	■	■
10172952		■			■			■	■	■	■
10172953		■				■		■	■	■	■
10172954		■					■	■	■	■	■
10172955			■	■				■	■	■	■
10172956			■		■			■	■	■	■
10172957			■			■		■	■	■	■
10172958			■				■	■	■	■	■

EVOTECH Family of Full Body Harnesses

	EVOTECH Derrick Full Body Harness									
	Features									
	<ul style="list-style-type: none"> Includes 18" D-ring extension & positioning D-ring on lumbar pad for monkey board work Available with metal or nylon web saddle 									
	PART NO.	Leg Buckle Type		Saddle		Size			Standards	
		Tongue Buckles		Metal	Nylon	XSM	STD	XLG	SXL	ANSI/CSA/OSHA
	10150836	■		■		■				■
	10152949	■		■			■			■
	10154124	■		■				■		■
	10154125	■		■					■	■
	10155538	■			■	■				■
10153611	■			■		■			■	
10155680	■			■			■		■	
10155691	■			■				■	■	

	EVOTECH Tower Full Body Harness											
	Features											
	<p>Body belt: Includes 2 side D-rings and 2 accessory rings</p> <p>Saddle: Removable, uses 2 side D-rings; adjustable height; can be stored when not in use for added comfort when walking</p>											
	PART NO.	Hip D-Ring Style		Size		Leg Buckle Type		Padding		Accessories		Standards
		Standard	Crank	Std	XLG	Quick-Connect	Tongue Buckle	Shoulder	Shoulder & Leg	None	Safety Step	OSHA/ANSI/CSA
	10112758	■		■			■	■		■		■
	10112759	■			■		■	■		■		■
	10112764	■		■			■		■	■		■
	10112765	■			■		■		■	■		■
	10112760	■		■		■		■		■		■
10112761	■			■	■		■		■		■	
10112762	■		■		■			■	■		■	
10112763	■			■	■			■	■		■	
10112770	■		■		■			■		■	■	
10112771	■			■	■			■		■	■	
10112772		■	■		■		■		■		■	
10112773		■		■	■		■		■		■	
10112774		■	■		■			■	■		■	
10112775		■		■	■			■	■		■	
10112776		■	■		■			■		■	■	
10112777		■		■	■			■		■	■	

EVOTECH Family of 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	Quik-Connect	OSHA/ANSI	OSHA/ANSI/CSA
10150159			■	■				■		■	
1 10150160			■		■			■		■	
10150161			■			■		■		■	
10150162			■				■	■		■	
10150147			■	■					■	■	
1 10150148			■		■				■	■	
1 10150149			■			■			■	■	
10150150			■				■		■	■	
10150155	■			■				■			■
1 10150156	■				■			■			■
10150157	■					■		■			■
10150158	■						■	■			■
10150143	■			■					■		■
1 10150144	■				■				■		■
1 10150145	■					■			■		■
10150146	■						■		■		■
10155823		■		■				■			■
1 10155824		■			■			■			■
10155825		■				■		■			■
10155826		■					■	■			■
10150151		■		■					■		■
1 10150152		■			■				■		■
1 10150153		■				■			■		■
10150154		■					■		■		■

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 Utility Full Body Harness	Gravity Suspension Full Body Harness
ADDED FUNCTIONALITY			
Stain-resistant and easy to clean	High-heat resistant	Suitable for electrical environments	Comfortable for extended periods
APPLICATIONS			
<ul style="list-style-type: none"> • Food processing • Oil, gas, petrochemical • Water treatment • Painting • Cleaning & maintenance 	<ul style="list-style-type: none"> • High-heat environments • Welding 	<ul style="list-style-type: none"> • Confined space • Rescue • Transmission tower • Telecom tower • Rope access • Other industries 	<ul style="list-style-type: none"> • All applications that require extended periods of time in a fall protection harness



Gravity Urethane-Coated Full Body Harness

Features

- Urethane-coated webbing provides protection against heavy oil & grease
- Rated to 400-lb./180kg capacity
- Extremely easy to clean

PART NO.	Style		Hardware		D-Ring Configuration		Leg Buckle Type	Size				Standards
	Vest-Type	Standard	Standard	Stainless Steel	Back	Back, Hips	Tongue Buckle	XSM	STD	XLG	SXL	OSHA/ANSI/CSA
10155870	■	■			■		■	■				■
1 10155871	■	■			■		■		■			■
1 10155872	■	■			■		■			■		■
10155873	■	■			■		■				■	■
10155874	■	■				■	■	■				■
1 10155875	■	■				■	■		■			■
1 10155876	■	■				■	■			■		■
10155877	■	■				■	■				■	■
10163556	■		■		■		■	■				■
10163557	■		■		■		■		■			■
10163558	■		■		■		■			■		■
10163559	■		■		■		■				■	■
10163560	■		■			■	■	■				■
10163561	■		■			■	■		■			■
10163562	■		■			■	■			■		■
10163563	■		■			■	■				■	■

Gravity Family of Full Body Harnesses

		Gravity Welder Full Body Harness								
		<i>Features</i>								
		<ul style="list-style-type: none"> Made of 100% Kevlar webbing Performs very well in high heat/welding applications 								
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	
	■			■				■	■	
1 10103216	■				■			■	■	
1 10103217	■					■		■	■	
10103218	■						■	■	■	
10158954		■		■				■	■	
10151154		■			■			■	■	
10158956		■				■		■	■	
10158957		■					■	■	■	
10164035			■	■				■	■	
10164036			■		■			■	■	
10164037			■			■		■	■	
10164038			■				■	■	■	

		Gravity Utility Full Body Harness																																																																																																																																																																		
		<i>Features</i>																																																																																																																																																																		
		<ul style="list-style-type: none"> Suitable for electrical environments Tested for arc flash, meeting all requirements of the ASTM F887 standard 																																																																																																																																																																		
		Attachment options <ul style="list-style-type: none"> <i>Front Loops:</i> fall arrest, suspension, positioning <i>Back:</i> fall arrest, suspension, positioning, restraint <i>Shoulder Loops:</i> suspension, confined space entry; rescue <i>Ventral:</i> suspension <i>Waist D-rings:</i> positioning, restraint 																																																																																																																																																																		
		Features <ul style="list-style-type: none"> Waist and leg padding with flame-resistant fabrics using aramid fibers like Kevlar Leather pad insulators Reflective tape is flame-retardant-treated cotton fabric PVC-coated dielectric D-rings Buckles are easy to adjust and do not slip during use Nylon web meeting the minimum static strength of 7000 lbf (as per the requirement by ASTM F887) Built-in load indicators RFID capability 400lbs. worker capacity 																																																																																																																																																																		
		<table border="1"> <thead> <tr> <th colspan="11">Gravity Utility Sizing Chart</th> </tr> <tr> <th rowspan="2">HEIGHT ft. (m)</th> <td>6' 6" (2)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td rowspan="2">LARGE</td> </tr> <tr> <td>6' 4" (1.95)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>6' 2" (1.9)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>6' 0" (1.85)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 10" (1.8)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 8" (1.75)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 6" (1.7)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 4" (1.65)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 2" (1.6)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>5' 0" (1.55)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>4' 10" (1.5)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td>110 (50)</td> <td>132 (60)</td> <td>154 (70)</td> <td>176 (80)</td> <td>198 (90)</td> <td>220 (100)</td> <td>242 (110)</td> <td>264 (120)</td> <td>286 (130)</td> <td>308 (140)</td> </tr> <tr> <td></td> <td colspan="10">WEIGHT lb. (kg)</td> </tr> </thead></table>									Gravity Utility Sizing Chart											HEIGHT ft. (m)	6' 6" (2)										LARGE	6' 4" (1.95)										6' 2" (1.9)											6' 0" (1.85)											5' 10" (1.8)											5' 8" (1.75)											5' 6" (1.7)											5' 4" (1.65)											5' 2" (1.6)											5' 0" (1.55)											4' 10" (1.5)												110 (50)	132 (60)	154 (70)	176 (80)	198 (90)	220 (100)	242 (110)	264 (120)	286 (130)	308 (140)		WEIGHT lb. (kg)									
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PART NO.	PVC-coated D-ring Configuration	Size			Leg Buckle Type	Padding	Accessories			Standards																																																																																																																																																										
	Back, Hips, Chest	SM	MED	LG	Quick-Connect	Leg & Lumbar	Leather Insulators	Reflective Striping	Rescue Loops	ANSI Z359.11	CSA Z259.10	ASTM F887																																																																																																																																																								
1 10162117	■	■			■	■	■	■	■	■	■	■																																																																																																																																																								
1 10162118	■		■		■	■	■	■	■	■	■	■																																																																																																																																																								
10162119	■			■	■	■	■	■	■	■	■	■																																																																																																																																																								

Gravity Family of Full Body Harnesses



Gravity Suspension Full Body Harness

Features

- 8 adjustment points for perfect sizing and fit
- Carabiner with 3,600 lb. (16kN) gate strength
- Elastic web keepers provide flexibility to manage excess webbing

D-rings

- Aluminum D-ring hardware
- Available at ventral (waist), sternal, hip and back locations
- Fold-back hip D-rings that allow users to reduce possible snag hazards
- Fall arrest-rated sternal and back D-ring

Buckles

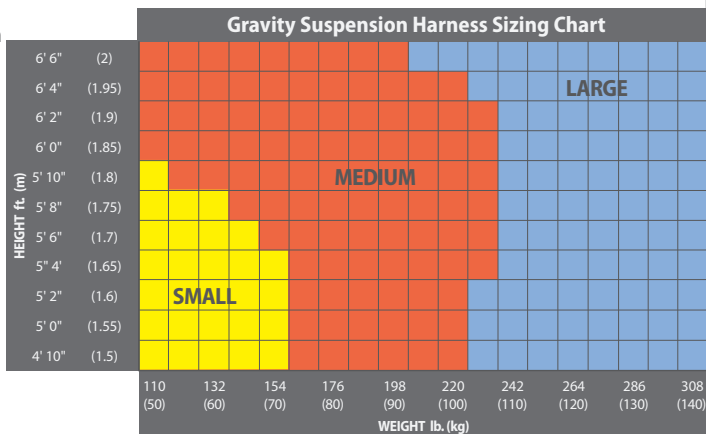
- Quick adjusting, bayonet-style buckles allow one-hand tightening and loosening
- Available with locking engagement window to confirm secure connection
- Undercut engagement prevents both tabs from disconnection while under tension

Tool Loops

- Internal rigid supports to make connection of tools easier
- Tool loops on leg straps provide more tool-holding options, and may be cut off if not needed

Padding

- All versions include waist and leg padding to improve suspension comfort
- Gravity Suspension versions available with comfort shoulder padding
- Waist pad with dual-layer construction to reduce pressure during suspension



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	■		■	■	■		■	■	■

Workman® Family of Full Body Harnesses

- **Lightweight components** and **durable webbing**
- **Optimum quality** at an **economical price**
- Yellow polyester webbing for **increased visibility**
- Color-contrasting thigh and torso straps **simplify donning**
- Choice of Qwik-Fit or tongue-buckle leg straps for **easy adjustment**
- Web retainer collars to **keep excess webbing neat**
- Includes two lanyard keepers for **added safety** when lanyard leg is not in use
- All Workman Harnesses include **load-indicator** to alert worker when harness has been involved in fall event

Workman Full Body Harness	Workman Construction Full Body Harness	Workman Stainless Steel Full Body Harness	Workman Arc Flash Full Body Harness
ADDED FUNCTIONALITY			
Visibility	Integral backpad and padding	Resists corrosion	High heat resistant

Approvals

- OSHA
- ANSI Z359.11
- CSA Z259.11

PART NO.	D-Ring Configuration					Size				Leg Buckle Type		Standards	
	Back	Back, Hips	Back, Chest	Back, Chest, Hips	Back, Shoulders	XSM	STD	XLG	SXL	Tongue Buckle	Qwik-Fit	ANSI Z359.11	CSA Z259.10
10072478	■					■					■	■	■
1 10072479	■						■				■	■	■
1 10072480	■							■			■	■	■
1 10072481	■								■		■	■	■
10072482		■				■					■	■	■
1 10072483		■					■				■	■	■
1 10072484		■						■			■	■	■
1 10072485		■							■		■	■	■
10072486	■					■				■		■	■
1 10072487	■						■			■		■	■
1 10072488	■							■		■		■	■
1 10072489	■								■	■		■	■
10072490		■				■				■		■	■
1 10072491		■					■			■		■	■
1 10072492		■						■		■		■	■
1 10072493		■							■	■		■	■
10108743			■			■				■		■	■
1 10108744			■				■			■		■	■
1 10108745			■					■		■		■	■
1 10108791			■						■	■		■	■
10108767				■		■				■		■	■
1 10108768				■			■			■		■	■
1 10108769				■				■		■		■	■
10108770				■					■	■		■	■
10172977					■	■				■		■	■
10172978					■		■			■		■	■
10172979					■			■		■		■	■
10172980					■				■	■		■	■

Workman Family of Full Body Harnesses

Workman Construction Full Body Harness							
<i>Features</i>							
• Integral backpad		• Extended D-ring and shoulder padding available					
PART NO.	Size				Padding		Standards
	XSM	STD	XLG	SXL	None	Shoulder	OSHA/ANSI/CSA
10072494	■				■		■
1 10072495		■			■		■
1 10072496			■		■		■
1 10072497				■	■		■
10077490	■					■	■
1 10077571		■				■	■
1 10077572			■			■	■
1 10077573				■		■	■

Workman Stainless Steel Full Body Harness									
<i>Features</i>									
• Stainless steel hardware (D-ring, adjusters and tongue buckles) for longer life cycle in corrosive environments									
PART NO.	D-Ring Configuration	Size				Leg Buckle Type		Standards	
	Back	XSM	STD	XLG	SXL	Qwik-Fit	Tongue Buckles	ANSI Z359.11	CSA Z259.10
10155931	■	■				■		■	■
1 10155932	■		■			■		■	■
1 10155933	■			■		■		■	■
10155934	■				■	■		■	■
10168930	■	■					■	■	■
10172974	■		■				■	■	■
10172975	■			■			■	■	■
10172976	■				■		■	■	■

Workman Family of 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	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 Accesories

				
PRODUCT	Universal Shoulder Pad	Universal Shoulder Pads	EVOTECH Shoulder Pads	Economic Back Support Pad
PART NO.	10028444	10077489 1 set	10111358	507144 nylon

			
PRODUCT	Double D-Ring Extension	Single D-Ring Extension	D-Ring Extender
PART NO.	10043147	10071688	505318
FEATURES	<ul style="list-style-type: none"> • 1" nylon web • Sewn loop 	<ul style="list-style-type: none"> • 1" nylon web • Sewn loop 	<ul style="list-style-type: none"> • Nylon • 1 D-ring • 8" (back D-ring extension)

	
PRODUCT	Suspension Trauma Safety Step
PART NO.	10063431 with carabiner 10063441 without carabiner
FEATURES	<ul style="list-style-type: none"> • Suspension Trauma Safety Steps allows fallen worker to relieve pressure by inserting a foot into the step loops and then standing up in the harness to increase blood flow to the legs







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

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








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

Energy-absorbing lanyards are a connecting component of a personal fall arrest system. They provide a means of connection between the back D-Ring of full-body harnesses and a qualified anchorage or anchorage connector. The energy absorber keeps fall arrest forces below ANSI, CSA & OSHA limits and deceleration distance is controlled to meet the applicable standard requirements. Lanyards are available in several configurations—including single-leg, twin-leg and tie-back designs—with a variety of snaphooks.

FP5K® TIE-BACK ENERGY-ABSORBING LANYARDS		Strong, tie-back design <i>Shown: Part No. 10107207</i>
DIAMOND™ ENERGY-ABSORBING LANYARDS AND EXPANYARDS		Durable, expandable <i>Shown: Part No. 10023932</i>
WORKMAN ENERGY-ABSORBING LANYARDS		Lightweight, economical <i>Shown: Part No. 10113158</i>
12FT FREEFALL/HEAVY WORKER ENERGY-ABSORBING LANYARDS		Tie off at foot level (310 lbs. capacity only) Regular tie off up to 400 lbs. capacity <i>Shown: Part No. 10150488</i>
ARCSAFE® ENERGY-ABSORBING LANYARDS		Electrical arc flash protection <i>Shown: Part No. 10060139</i>
THERMATEK® ENERGY-ABSORBING LANYARDS		High heat-resistant <i>Shown: Part No. 10106935</i>

Snaphooks





						
36C snaphook	36CS snaphook (swivel with load indicator)	36CSN snaphook (swivel without load indicator)	AL36C snaphook (aluminum)	36CL snaphook	AL36CL snaphook (aluminum)	FP5K snaphook
SNAPHOOK GATE OPENING SIZE						
.83"	.75"	.75"	.79	2.5"	2.44"	1"
SNAPHOOK GATE STRENGTH						
3,600 lb. (ANSI & CSA compliant)	3,600 lb. (ANSI & CSA compliant)	3,600 lb. (ANSI & CSA compliant)	3,600 lb. (ANSI & CSA compliant)	3,600 lb. (ANSI & CSA compliant)	3,600 lb. (ANSI & CSA compliant)	5,000 lb. (ANSI & CSA compliant)

Connecting Devices: Energy-Absorbing Lanyards

FP5K Tie-Back Energy-Absorbing Lanyards

- FP5K Carabiner ties directly back to the lanyard
- 5,000-lb. gate strength in any direction
- Monster-Edge Webbing with 12,000-lb. minimum breaking strength
- Internal wear indicator minimum breaking strength

FP5K Web Tie-Back Energy-Absorbing Lanyards





LANYARD TYPES		HARNESS CONNECTION	ANCHORAGE CONNECTION
			
Adjustable single-leg	Adjustable twin-leg	36C	FP5K

PART NO.	Harness Connection	Anchorage Connection	Type		Standards	
			Single-Leg	Twin-Leg	ANSI Z359.13	CSA Z259.11
1 10107207	36C	FP5K	■		■	
1 10107208	36C	FP5K		■	■	
1 10047084	36C	FP5K	■			■
1 10047085	36C	FP5K		■		■

Diamond™ Energy-Absorbing Lanyards and Expanyards

- Pouchless design for lighter weight and comfortable wear
- Strong, durable polyester sheath is abrasion- and UV-resistant

Diamond LITE Energy-Absorbing Lanyards






LANYARD TYPES		SNAPHOOKS	
			
Single-leg	Twin-leg	AL36C	AL36CL

PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards	
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11
10156525	AL36C	AL36C	■		6'	■	
10156527	AL36C	AL36CL	■		6'	■	
10156526	Hitch Loop	(2) AL36C		■	6'	■	
10156528	Hitch Loop	(2) AL36CL		■	6'	■	
10156529	AL36C	AL36C	■		6'		■
10156541	AL36C	AL36CL	■		6'		■
10156530	Hitch Loop	(2) AL36C		■	6'		■
10156542	Hitch Loop	(2) AL36CL		■	6'		■

Connecting Devices: Energy-Absorbing Lanyards






Diamond Energy-Absorbing Lanyards and Expanyards

Diamond Energy-Absorbing Lanyards

LANYARD TYPES		SNAPHOOKS		
				
Single-leg	Twin-leg	36C	36CL	36CSN

PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards		
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11	OSHA
1 10023932	36C	36C	■		6'		■	■
1 10023933	36C	36CL	■		6'		■	■
1 10023970	36CSN	(2) 36C		■	6'		■	■
1 10023971	36CSN	(2) 36CL		■	6'		■	■

Diamond Energy-Absorbing Expanyards

LANYARD TYPES		SNAPHOOKS		
				
Single-leg	Twin-leg	36C	36CL	36CSN






PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards		
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11	OSHA
10045936	36C	36C	■		6'		■	■
10053015	36C	36CL	■		6'		■	■
10055189	36CSN	(2) 36C		■	6'		■	■
10045938	36CSN	(2) 36CL		■	6'		■	■

NOTE: Diamond Expanyards DO NOT meet ANSI Z359.13 requirements.

Connecting Devices: Energy-Absorbing Lanyards

Workman Energy-Absorbing Lanyards




- Lightweight, low-profile
- Clear, durable protective cover over the labels on shock absorber increases service life and allows for easy inspection

LANYARD TYPES			SNAPHOOKS	
				
Adjustable single-leg	Adjustable twin-leg	Adjustable tie-back	36C	36CL

	PART NO.	Harness Connection	Anchorage Connection	Type			Standards		
				Single-Leg	Twin-Leg	Tie-Back	ANSI Z359.13	CSA Z259.11	OSHA
1	10113158	36C	36C	■			■		■
1	10113164	36C	36CL	■			■		■
1	10113157	36C	36C	■		■	■		■
1	10113159	36C	(2) 36C		■		■		■
1	10113163	36C	(2) 36CL		■		■		■
1	10113162	36C	(2) 36C		■	■	■		■
1	10072474	36C	36C	■				■	■
1	10076124	36C	36CL	■				■	■
1	10072472	36C	36C	■		■		■	■
1	10073708	36C	(2) 36C		■			■	■
1	10072475	36C	(2) 36CL		■			■	■
1	10072473	36C	(2) 36C		■	■		■	■

Workman Stainless Steel Energy-Absorbing Lanyards

- Resist corrosion

LANYARD TYPES		SNAPHOOK
		
Adjustable single-leg	Adjustable twin-leg	36C stainless

	PART NO.	Type		Snaphooks	Standards	
		Single-Leg Web	Twin-Leg Web	36C Stainless Steel Snaphook	ANSI Z359.13	CSA Z259.11
1	10155935	■		■	■	
1	10155936		■	■	■	
1	10155970	■		■		■
1	10155981		■	■		■

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
- Rated up to 400 lbs. for heavy workers
- Workman lanyards are made of 7,000 lb. nylon web
- FP5K lanyards are made of 12,000 lb. nylon web and have tie-back capability

LANYARD TYPES				SNAPHOOKS	
Adjustable single-leg web	Adjustable twin-leg web	Adjustable tie-back web	Adjustable tie-back cable	36C	FP5K

PART NO.	Harness Connection	Anchorage Connection	Type					Length	Standards	
			Single-Leg	Twin-Leg	Tie-Back	Adjustable	Cable		ANSI	OSHA
WORKMAN 12FT FREEFALL										
1 10150488	36C	36C	■			■		6'	■	■
1 10150489	36C	36C	■		■	■		6'	■	■
1 10150490	36C	(2) 36C		■		■		6'	■	■
1 10150491	36C	(2) 36C		■	■	■		6'	■	■
FP5K 12FT FREEFALL										
1 10150477	36C	FP5K	■		■	■		6'	■	■
1 10150479	36C	FP5K	■		■		■	6'	■	■
1 10150478	36C	(2) FP5K		■	■	■		6'	■	■
1 10150480	36C	(2) FP5K		■	■		■	6'	■	■

ArcSafe® Energy-Absorbing Lanyards

- Provide electrical arc flash protection
- Tear-tape design keeps fall arrest forces and deceleration distances below ANSI, OSHA, and CSA limitations
- Connect back D-ring of MSA full-body harnesses to qualified anchorage and anchorage connector
- Nylon webbing; adjustable length
- Kevlar cover protects energy-absorber

LANYARD TYPES		ANCHORAGE CONNECTIONS	
Adjustable single-leg	Adjustable twin-leg	36C	36CL

PART NO.	Harness Connection	Anchorage Connection	Type		Standards			
			Single-Leg	Twin-Leg	ANSI Z359.13	CSA Z259.11	CSA Z259.11 (E6*)	ASTM F887
1 10107200	Hitch Loop	36C	■		■			■
1 10107201	Hitch Loop	(2) 36C		■	■			■
10107202	Hitch Loop	(2) 36CL		■	■			■
1 10060139	Hitch Loop	36C	■			■		■
1 10060140	Hitch Loop	(2) 36C		■		■		■
10088256	Hitch Loop	(2) 36CL		■		■		■
10118808*	Hitch Loop	36C	■				■	■
10118809*	Hitch Loop	(2) 36C		■			■	■
10118810*	Hitch Loop	(2) 36CL		■			■	■





*E6 Heavy Worker version

Connecting Devices: Energy-Absorbing Lanyards

Thermatek® Energy-Absorbing Lanyards





- Designed to resist heat and especially suitable for the welding industry
- Kevlar/Nomex protective cover
- Kevlar back-up strap is resistant to charring and burning
- Available in Kevlar web, ASTM F887 tested (web only)

Cable Thermatek Energy-Absorbing Lanyards

LANYARD TYPES		SNAPHOOKS	
			
Single-leg	Twin-leg	36C	36CL

PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards	
			Single-Leg	Twin-Leg		ANSI Z359.13	CSA Z259.11 (E4)
10088246	36C	36C	■		6'	■	
10114028	36C	36CL	■		6'	■	
10088250	36C	(2) 36C		■	6'	■	
10147459	36C	(2) 36CL		■	6'	■	
10023485	36C	36C	■		6'		■
10152844	36C	36CL	■		6'		■
10152845	36C	(2) 36C		■	6'		■
10099974	36C	(2) 36CL		■	6'		■

Web Thermatek Energy-Absorbing Lanyards

LANYARD TYPES		SNAPHOOKS	
			
Single-leg	Twin-leg	36C	36CL

PART NO.	Harness Connection	Anchorage Connection	Type		Length	Standards	
			Single-Leg	Twin-Leg		ANSI Z359.13	OSHA
10106935	36C	36C	■		6'		■
10107837	36C	36CL	■		6'		■
10118753	36C	(2) 36C		■	6'		■
10118738	36C	(2) 36CL		■	6'	■	

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. All restraint lanyards meet applicable OSHA regulations. Compliance to CSA is noted in the tables below.

LANYARD TYPES		SNAPHOOKS		
				
Single-leg fixed	Single-leg adjustable	36C	36CL	FP5K

PART NO.	Harness Connection	Anchorage Connection	Type			Length	Material	Standards		
			Single-Leg	Fixed	Adjustable			Nylon	ANSI Z359.13	CSA Z259.11
SWL3268710LS	36C	36C	■	■		10'	■	■	■	■
10125850	36C	36C	■	■		8'	■	■	■	■
505197	36C	36C	■	■		6'	■	■	■	■
SWL3268706LS	36C	36C	■	■		6'	■	■	■	■
SWL3268705LS	36C	36C	■	■		5'	■	■	■	■
1 SWL3268704LS	36C	36C	■	■		4'	■	■	■	■
SWL3268703LS	36C	36C	■	■		3'	■	■	■	■
SWL3268702LS	36C	36C	■	■		2'	■	■	■	■
10122492	36C	36CL	■	■		8'	■	■	■	■
10035710	36C	36CL	■	■		6'	■	■	■	■
10036029	36C	36CL	■	■		4'	■	■	■	■
10038542	36C	36CL	■	■		3'	■	■	■	■
1 505204	36C	36C	■		■	6'	■	■	■	■
505217	36C	Web Loop	■		■	6'	■	■	■	■
10056762	36C	FP5K	■		■	5'	■	■	■	■
10094872	36C	36C	■		■	12'	■	■		■
415100	36C	36C	■		■	10'	■	■		■
10094717	36C	36C	■		■	8'	■	■		■
1 505088	36C	36C	■		■	6'	■	■		■
10103103	36C	36C	■		■	4'	■	■		■
10072499	36C	36C	■		■	6'	■			■

Work Positioning Assemblies

Work Positioning Rebar Assemblies

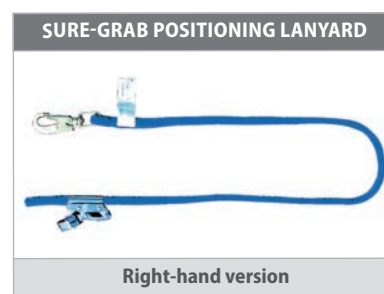
WORK POSITIONING REBAR ASSEMBLIES			SNAPHOOKS	
				
Rebar chain assembly	Rebar web assembly	Rebar web assembly	36C	36CL

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			■
10072498	Rebar web assembly, 13" legs, with sliding large snaphook		■	■
415957	Rebar web assembly, 36CL snaphook with 2.5" (64mm) gate		■	■

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	■



Lineman's Pole Strap

The Lineman's Pole Strap is used to assist a lineman in climbing wooden poles and for work positioning. Meets applicable OSHA regulations.

PART NO.	Description	Standards
		OSHA
415834	Lineman's pole strap, nylon, adjustable to maximum length of 70"	■



Energy-Absorbing Sub-Assembly Lanyards

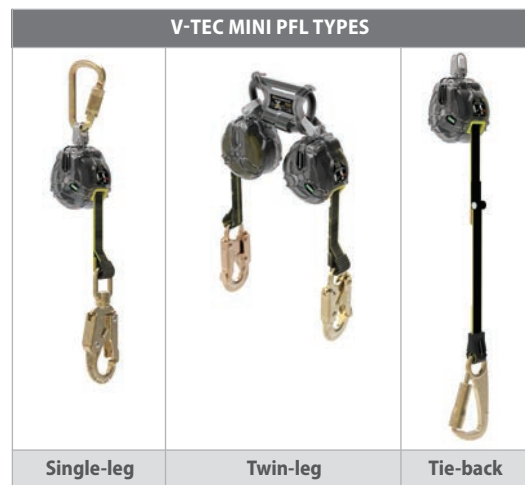
PART NO.	Material	Harness Connection	Anchorage Connection	Standards		
	Nylon			ANSI Z359.13	CSA Z259.11-05	OSHA
10088064	■	36C	D-Ring	■		■
SSA4002LS	■	36C	D-Ring		■	■
10090058	■	36C	D-Ring			■



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



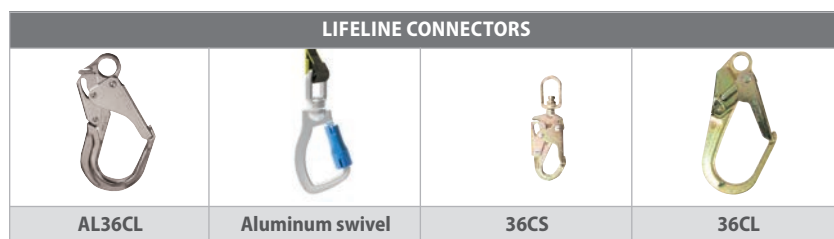
PART NO.	Type			Line Length	Anchorage Connection	Harness Connection	Standards		
	Single-leg	Twin-Leg	Tie-Back				ANSI	CSA	OSHA
63011-00A	■			6 ft. (1.8 m)	AL36CL	Steel carabiner	■	■	■
63011-00B	■			6 ft. (1.8 m)	36C	Steel carabiner	■	■	■
63011-00C	■			6 ft. (1.8 m)	Aluminum swivel carabiner	Steel carabiner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

Connecting Devices: Self-Retracting Devices

MSA 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

MSA LATCHWAYS STANDARD PFL TYPES

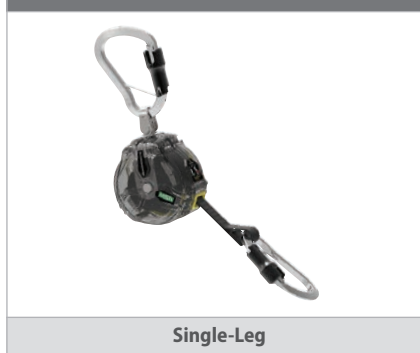


PART NO.	Web	Cable	Length	Lifeline Connection	PFL Connection	ANSI Z359.14	CSA Z259.2.2
63013-00A	■		10 ft. (3 m)	AL36CL	Steel carabiner	■	■
1 63013-00C	■		10 ft. (3 m)	Aluminum swivel	Steel carabiner	■	■
1 63013-00E	■		10 ft. (3 m)	36CS	Steel carabiner	■	■
63013-00F	■		10 ft. (3 m)	36CL	Steel carabiner	■	■
1 63203-00A		■	10 ft. (3 m)	36CS	Steel carabiner	■	
1 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		■

MSA 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

MSA LATCHWAYS ARC FLASH PFL



CONNECTORS



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

Connecting Devices: Self-Retracting Devices

V-TEC 20-ft. Self-Retracting Lanyard (SRL)

With premium components and innovative engineering, the V-TEC SRL offers controlled cable retraction—preventing excessive lifeline retraction speed and protecting internal parts from damage.

- Clear outer casing for easy inspection
- Carry handle included
- Spring radial energy-absorbing technology requires zero calibration or adjustment
- Stainless steel/engineered plastics
- Retraction dampening features controls the cable speed to <3m/s
- Completely field serviceable



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

MSA 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 1	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 1	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 1	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 1	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

MSA Latchways Leading Edge Self-Retracting Lanyards (SRL)

Expansive mobility

- Automatically extends and retracts during use for freedom to move over large working areas

Versatile connection

- Optimum compatibility with both vertical and horizontal applications

Reliable technology

- Patented Constant Force® technology controls the load in the event of a fall

Reliable technology

- Full Contact™ locking mechanism helps to ensure that the device will not freeze, hang up or corrode

Strong and tested

- Features a toughened case to prevent impact damage
- Advanced premium quality materials for superior resistance to corrosion and abrasion
- Yellow color for improved visibility and product differentiation
- Third-party-tested for contact with a 0.005" (0.13 mm) radius steel edge
- Meets ANSI Z359.14

PART NO.	Description	Length	Line Type	Size (L x W x D)	Net Weight	Weight Capacity
62707-00US 1	23 ft (7 m) Leading Edge Cable SRL	23 ft (7 m)	Ø 0.25" (6 mm) 7 x 19 galvanized cable	36.5" x 7.3" x 5" (927 x 185 x 127 mm)	13.2 lb (6 kg)	310 lb (140 kg)
62710-00US 1	33 ft (10 m) Leading Edge Cable SRL	33 ft (10 m)	Ø 0.25" (6 mm) 7 x 19 galvanized cable	38" x 8.5" x 5" (965 x 216 x 127 mm)	17.6 lb (8 kg)	310 lb (140 kg)



MSA 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

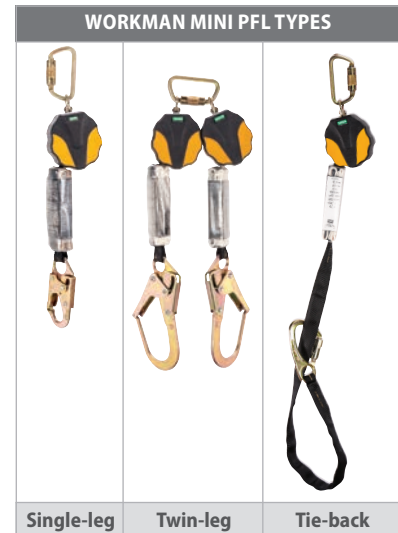
- Rugged, impact-resistant housing for increased product life

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
1 10157841	■		Carabiner	36C	6'	■		■
10157842	■		Carabiner	36CSN	6'	■		■
10157843	■		Carabiner	36CL	5'	■		■
1 10157844	■		Carabiner	AL36C	6'	■		■
1 10157845	■		Carabiner	AL36CL	6'	■		■
1 10157808	■		Carabiner	36C	6'		■	■
10157809	■		Carabiner	36CSN	6'		■	■
10157810	■		Carabiner	36CL	5'		■	■
1 10157831	■		Carabiner	AL36C	6'		■	■
1 10157832	■		Carabiner	AL36CL	6'		■	■
1 10157858		■	Carabiner	36C	6'	■		■
1 10157859		■	Carabiner	36CSN	6'	■		■
1 10157860		■	Carabiner	36CL	5'	■		■
1 10157861		■	Carabiner	AL36C	6'	■		■
1 10157862		■	Carabiner	AL36CL	6'	■		■
1 10157852		■	Carabiner	36C	6'		■	■
1 10157853		■	Carabiner	36CSN	6'		■	■
1 10157854		■	Carabiner	36CL	5'		■	■
1 10157855		■	Carabiner	AL36C	6'		■	■
1 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
1 10157847	■		■	Carabiner	FP5K	9'			■
1 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 lbs. user capacity
- Nylon web

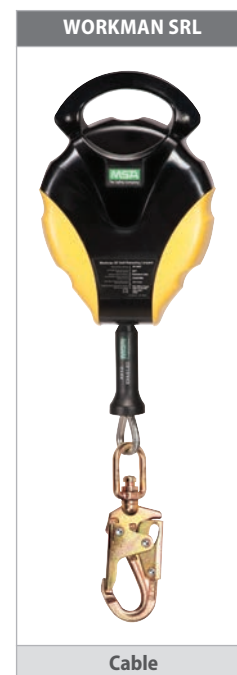


PART NO.	Description	PFL Connection	Lifeline Connection	Standards		
				ANSI Z359.14	CSA Z259.2.2	OSHA
1 10093353	Workman PFL, 12' line	1" Steel Carabiner	36C Snaphook	■		■
1 10093354	Workman PFL, 12' line	None	36C Snaphook	■		■
10093355	Workman PFL, 10' line	None	AL36C Snaphook		■	■
1 10093356	Workman PFL, 10' line	None	36C Snaphook		■	■
1 10093357	Workman PFL, 10' line	1" Steel Carabiner	36C Snaphook		■	■
10093358	Workman PFL, 10' line	Back D Connector	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
1 10119507	Workman SRL, 30-ft, galvanized cable	36CS snaphook	■	■	■
1 10120724	Workman SRL, 30-ft, stainless steel cable	36CS snaphook	■	■	■
1 10121834	Workman SRL, 50-ft, galvanized cable	36CS snaphook	■	■	■
1 10121778	Workman SRL, 30-ft, stainless steel cable	36CS snaphook	■	■	■

Carabiners

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

 <ul style="list-style-type: none"> • 9/16" (14 mm) gate opening • Auto-locking • Steel • ANSI Z, CSA <p>PART NUMBER 10089205 1</p>	 <ul style="list-style-type: none"> • 3/4" (19 mm) gate opening • Auto-locking • Aluminum <p>PART NUMBER SRCA613</p>	 <ul style="list-style-type: none"> • 7/8" (22 mm) gate opening • Twist-lock • Aluminum <p>PART NUMBER 506259</p>	 <ul style="list-style-type: none"> • 7/8" (22 mm) gate opening • Auto-locking • Steel <p>PART NUMBER 506572</p>
 <ul style="list-style-type: none"> • 1" (25 mm) gate opening • Auto-locking with pin • Steel • ANSI Z, CSA <p>PART NUMBER 10089207 1</p>	 <ul style="list-style-type: none"> • 1" (25 mm) gate opening • Auto-locking • Aluminum <p>PART NUMBER SRCA883</p>	 <ul style="list-style-type: none"> • 1.2" (32 mm) gate opening • Auto-locking • Steel • NFPA <p>PART NUMBER SRCC642</p>	 <ul style="list-style-type: none"> • 1.2" (32 mm) gate opening • Screw-lock • Steel • NFPA <p>PART NUMBER SRCC641</p>
 <ul style="list-style-type: none"> • 2.1" (53 mm) gate opening • Auto-locking with pin • Steel • ANSI Z, CSA <p>PART NUMBER 10089209 1</p>	 <ul style="list-style-type: none"> • 2.1" (53 mm) gate opening • Auto-locking with pin • Aluminum <p>PART NUMBER SRCA722</p>	 <ul style="list-style-type: none"> • 2.1" (53 mm) gate opening • Auto-locking with pin • Steel <p>PART NUMBER 506308</p>	 <ul style="list-style-type: none"> • 2" (51 mm) gate opening • Auto-locking with pin • Steel • ANSI Z, CSA <p>PART NUMBER SRCC740</p>

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 NUMBER

505282 **1**



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 NUMBER

10023490 **1**



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

P/N	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

P/N	Description
SFP2267503	3-ft. strap
SFP2267504 1	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 NUMBER

10023487



Anchorage Cable Sling

- Standard lengths of 4-ft. and 6-ft.; custom lengths available
- Vinyl-coated
- 1/4" galvanized cable

P/N	Description
SFP3267504 1	4-ft. sling
SFP2267506 1	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

P/N	Description
10042794 1	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

P/N	Description
10042792 1	Residential

Anchorage Connectors: Extensions

	PART NO.	Tie-Off Connection	Anchorage Connection	Length	Standards	
					ANSI Z359	OSHA
 <p>Anchorage Connector Extensions</p> <ul style="list-style-type: none"> • 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'	■	■
	1 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

P/N	Description
10144431 1	Standard version
10144432	XL version

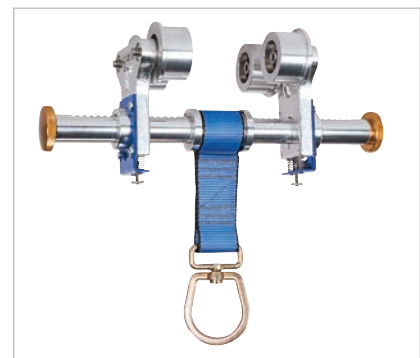


D-Plate Anchorage Connector

- 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 NUMBER

506632 **1**



Beam Trolley

- Provides horizontal mobility
- Fits all beams

PART NUMBER

10176450



Bolt D-ring with Hole

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

PART NUMBER

10003213

Anchorage Connectors: Steel Beam



MEGA Swivel—Steel Model

- Includes 4" nut bolt and washer

P/N	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 NUMBER

10144958	Includes puck and bolt. MEGA Swivel sold separately.
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Replacement Nut Bolt and Washer

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

P/N	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 NUMBER

10081594	1	5K Removable Concrete Anchor
10081570	1	10K Removable Concrete Anchor



MEGA Swivel—Concrete Model

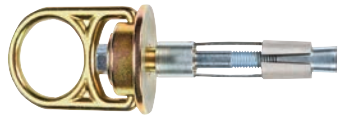
- Includes concrete anchor

P/N	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

P/N	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 NUMBER

10144957

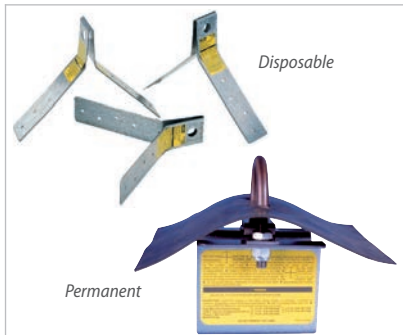


PointGuard Anchorage Connector Strap—Concrete Construction Model

- 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

P/N	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 NUMBER

416068 Disposable

10016468 Permanent



Workman Reusable Roof Anchor

- Fits up to 12 x 12 roof pitch
- Fastens with screws or nails

PART NUMBER

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 NUMBER

10042792

Description

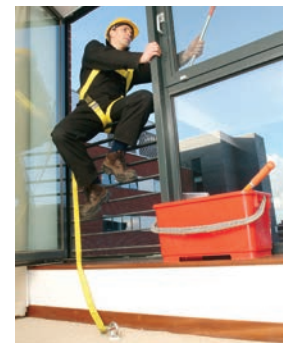
Residential (with D-ring)

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>1 Install brass finished PushLock socket into a cavity wall.</p>	<p>2 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>3 Check installation by tugging the eyebolt. 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>4 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	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	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

PRODUCT	SureClimb Temporary Systems
PART NO.	SFPLS35305 50' (15 m), with integral shock absorber
	SFPLS35310 100' (30 m), with integral shock absorber
	SFPLS35320 200' (61 m), with integral shock absorber



SureClimb Extension Davit and Base Assembly

PART NUMBER

10036032 Extension davit and base assembly

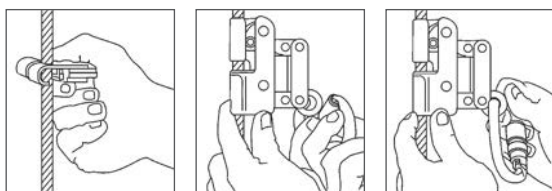


SureClimb Slider

- Fall arrester

PART NUMBER

10040010 SureClimb Slider

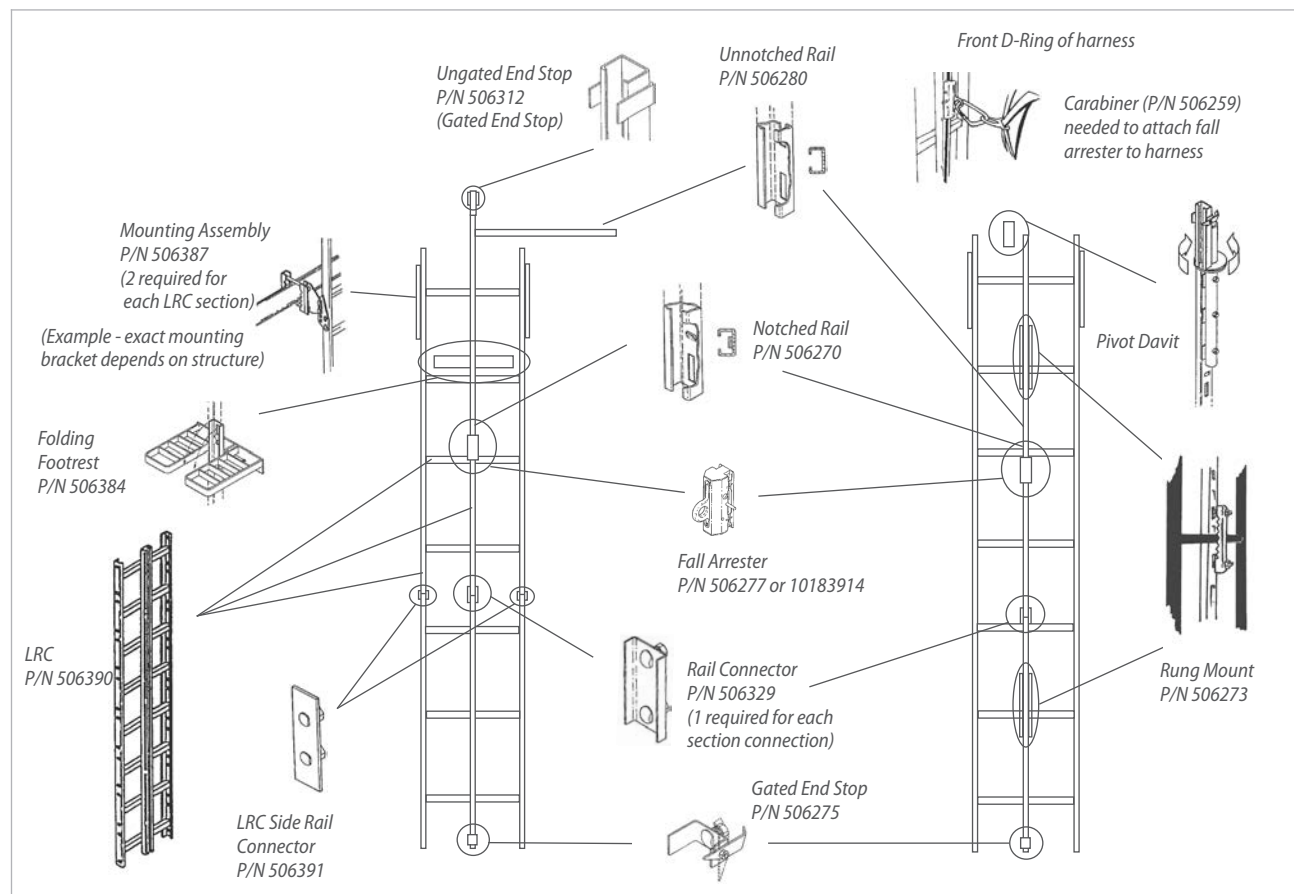


SureClimb Slider can be attached and removed anywhere along the length of cable

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 PART NO.	SureClimb Permanent System
506273	Rung Mount Assembly, galvanized
506274	Gated top end stop, stainless steel
506275	Gated bottom end stop, stainless steel
506277	Fall arrester
10183914	Fall arrester
506282	Mounting base angle corner, galvanized
506283	Mounting angle corner, galvanized
506312	Ungated top end stop, stainless steel
506329	Rail connector, galvanized
506388	Ladder/Rail Combination (LRC) standoff bracket, galvanized, standard length 7' 4-3/16"
506389	LRC standoff bracket, bottom, galvanized
506390	LRC, galvanized (CSA Part No. 10006461)
506391	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 1	Steel Cable Horizontal Lifeline System w/turnbuckle, 40 ft. (12m)
	10150422	Steel Cable Horizontal Lifeline System w/turnbuckle, 50 ft. (15m)
	10150418 1	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.



anchor straps (web)

PRODUCT	Dyna-Line Temporary Horizontal Lifeline System — for two workers	
PART NO.	10150413*	Dyna-Line Temporary Horizontal Lifeline, 30-ft. rope (9 m)
	10150414* 1	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.



anchor slings (cable)

PRODUCT	Sure-Line Temporary Synthetic Horizontal Lifeline	
PART NO.	10150423	SureLine Temporary Horizontal Lifeline, 40 ft. (12 m) black
	10150424 1	SureLine Temporary Horizontal Lifeline, 60 ft. (18 m) black

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

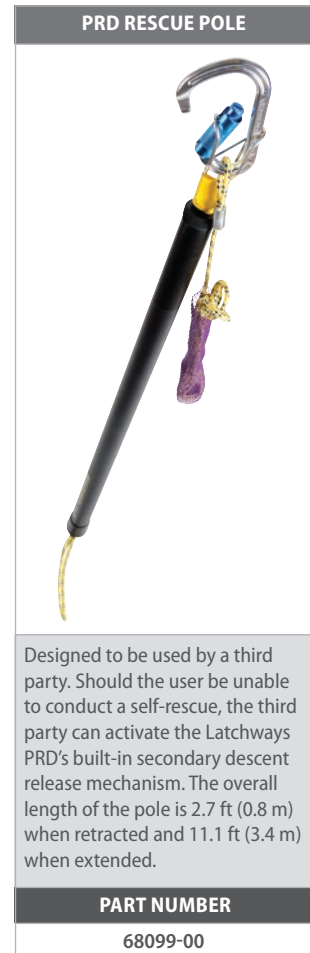
Assumes 220-lb. workers with HLL at D-ring level or higher

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	STD	XLG		ANSI	CSA	OSHA
10176307	■			■		65 ft.	■	■	■
10176308	■				■	65 ft.	■	■	■
10176309		■		■		65 ft.	■	■	■
10176310		■			■	65 ft.	■	■	■
10176311			■	■		65 ft.	■		■
10176312			■		■	65 ft.	■		■



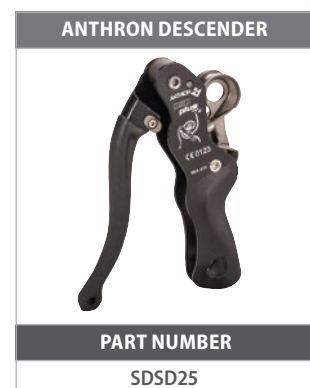
Designed to be used by a third party. Should the user be unable to conduct a self-rescue, the third party can activate the Latchways PRD's built-in secondary descent release mechanism. The overall length of the pole is 2.7 ft (0.8 m) when retracted and 11.1 ft (3.4 m) when extended.

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>				
SuretyMan™ Edge Roller	SuretyMan Rescue Eight	SuretyMan Rigging Plates		SuretyMan Carabiner
Protects rope from sharp edges and reduces rope friction	For rope diameters from 7/16" (11 mm) to 5/8" (16 mm)	Stealth Rigging Plate: (left) anchor on point and wings will rotate toward load for straighter line of pull Stretcher Rigging Plate: (right) designed to unclutter and organize litter rigging points, reducing chance of error.		Developed for fire and rescue communities

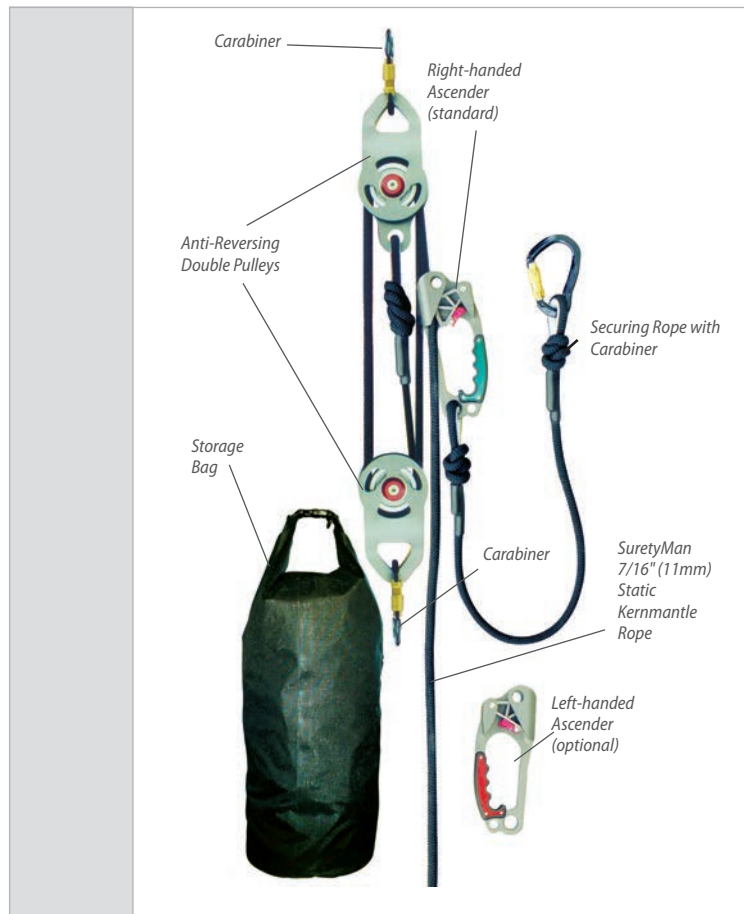
Part No.	Description	Strength	Weight	Material
SPPRL4000	SuretyMan Edge Roller w/ rubber-covered 6" x 10" (15.3 cm x 24.4 cm) base, bottom/side plate attachment hole, slots in base plate for tube webbing	—	2.8 lb. (1.3 kg)	Aluminum
SMI420560	Quick Link 5/16" (8 mm) for use with SuretyMan Edge Roller [two required]	—	—	Aluminum
SRSF5077	SuretyMan Rescue Eight	6,720 lb. (30 kN)	1.5 lb. (675 g)	Aluminum
SRSR5990	SuretyMan Stealth Rigging Plate, teal	11,000 lb. (48 kN)	.46 lb. (250 g)	Aluminum
SRSR5980	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				
Rescue Rope	Rope Bag #1	Rope Bag #2	Termination Plate	

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

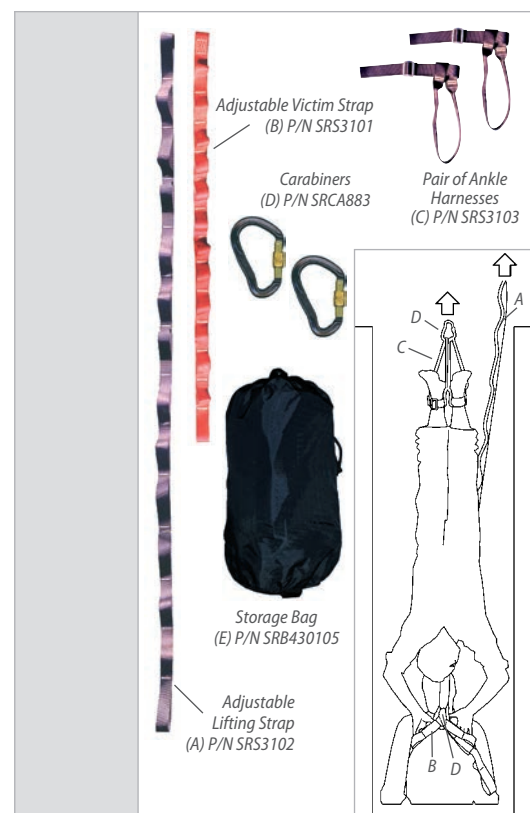


PRODUCT	SuretyMan Rescue Utility System	
FEATURES	<ul style="list-style-type: none"> Primarily used for raising and lowering people or equipment in rescue/industrial work access/confined space applications Pulleys equipped with a built-in anti-reversing lock Offers rapid deployment, is virtually maintenance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

NOTE: Due to 4:1 mechanical advantage, user should order system with 4 times the rope necessary for the application. For example, a 50' application requires 200' of rope.

Part No.	Description	Length
SRS15200	SuretyMan Rescue Utility System	200' (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



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

Part No.	Description
SRS3100	Confined Space/ Head First Extraction System
SRS3103	Rescue anklets
507002	Rescue wristlets

FP Rescue Tripod/Workwinch

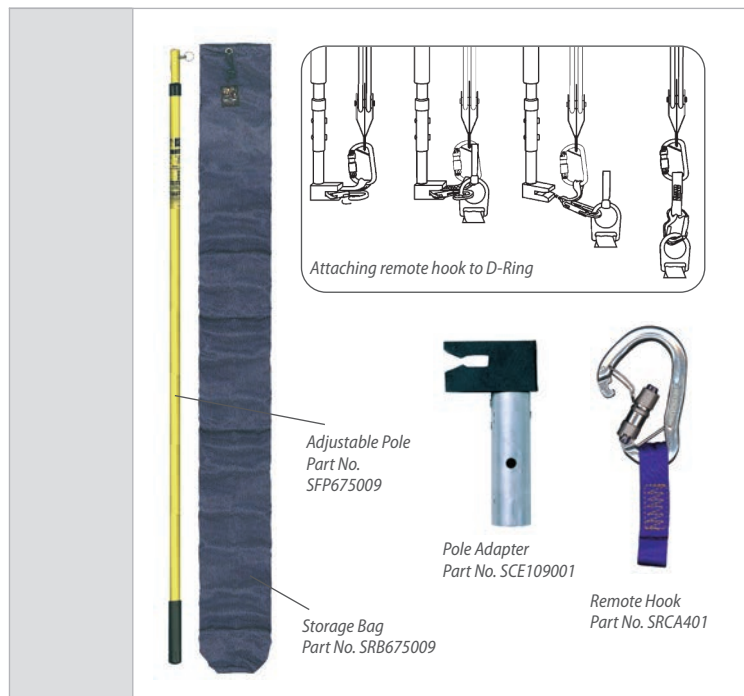
PRODUCT	FP Rescue Tripod
PART NO.	SCE107010HD Sure-Strong® 10' (3m) Tripod, aluminum, 10,000 lb. (48 kN)
FEATURES	<ul style="list-style-type: none"> • Portable, collapsible and designed for use in confined space applications for anchorage above a manhole or other confined space entry • Compatible with Dynevac II

Fall Protection Rescue Kit

PRODUCT	FP Protection Rescue Kit
PART NO.	10030025 Fall Protection Rescue Kit
FEATURES	<ul style="list-style-type: none"> • Out-of-the-bag rescue system • Remote hook and extension pole allow for remote attachment of rescue line to victim, while rescue utility system allows rescuer to raise or lower victim to safety • Kit should be used with back-up system (not included)

PRODUCT	FP Rescue Work Winch
PART NO.	SCE1074021050 Sure-Strong Workwinch, 50' (15m) galvanized wire rope, with bracket (compatible with Sure-Strong Tripod)
FEATURES	<ul style="list-style-type: none"> • Used for work positioning, material handling, or as a means of retrieval in an emergency • Used in conjunction with a fall protection system and a Sure-Strong Tripod

Rescue Pole/Remote Hook



PRODUCT Rescue Pole/Remote Hook

- FEATURES**
- Rescue tool for retrieval of worker suspended in fall arrest system or for remote rescue access
 - System includes adjustable fiberglass pole, pole adapter, and remote hook
 - Optional nylon storage bag

Part No.	Description
SFP675009	Adjustable pole, fiberglass, 6–12 ft.
SFP675012	Adjustable pole, fiberglass, 8–24 ft.
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" in diameter
- Vibration-absorbing handle
- Eases awkward hand positioning
- Economical
- Spark resistant

PART NUMBER

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 NUMBER

507005 Tool Holder, 18"

507006 Tool Holder, spark resistant, 18"

Tagline

- SRL accessory

PART NUMBER

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, Edmonton and Toronto facilities.

We will also come to your facility, training your employees in their work environment; addressing the specific hazards they face on a regular basis.

Contact us at 866.347.6093, training@msasafety.com or visit our website www.msasafety.com

MSA 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



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A

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