

# GENERAL SERVICES ADMINISTRATION



FEDERAL SUPPLY SERVICE  
•  
AUTHORIZED FEDERAL  
SUPPLY SCHEDULE PRICE LIST

On-line access to contract ordering information, terms and conditions, up-to-date pricing, and the option to create an electronic delivery order are available through GSA Advantage!™, a menu-driven database system. The INTERNET address for GSA Advantage!™ is: <http://www.GSAAdvantage.gov>.

For more information on ordering from Federal Supply Schedules, click on the FSS Schedules button at [fss.gsa.gov](http://fss.gsa.gov)

**GEOPHYSICAL, ENVIRONMENTAL ANALYSIS EQUIPMENT & SERVICES**  
**FSC GROUP 66, PART II, SECTION Q**  
**FSC CLASS 6630 & 6640**  
**SIN 66-619**

**CONTRACT NUMBER:**  
**GS-24F-1086B**

**CONTRACT PERIOD:**  
February 1, 2004 through January 31, 2009  
**SUPPLEMENT A004 EFFECTIVE January 21, 2005**

**ORDERING SOURCE:**  
Mine Safety Appliances Company  
P.O. Box 426, Pittsburgh, PA 15230-0426  
Fax: 1-800-967-0398  
1-800-MSA-2222  
[info@MSAnet.com](mailto:info@MSAnet.com)  
[www.MSAGSA.com](http://www.MSAGSA.com)

**BUSINESS SIZE:** Large

**PRICES SHOWN HEREIN ARE NET (DISCOUNT DEDUCTED)**

- 1a. TABLE OF AWARDED SPECIAL ITEM NUMBERS (SIN): 66-619 pp. 107-138.
- 1b. LOWEST PRICED MODEL NUMBER AND PRICE FOR THIS SIN (Government price based on a unit of one):  
Model/Part Number: Machine screw/53196 \$0.13 ea.
2. MAXIMUM ORDER\*: \$100,000.00  
\*If the "best value" selection places your order over the maximum order, identified in this catalog/price list, you have an opportunity to obtain a better schedule contract price. Before placing your order, contact the aforementioned contractor for a better price. The contractor may (1) offer a new price for this requirement (2) offer the lowest price available under this contract or (3) decline the order. A delivery order that exceeds the maximum order may be placed under the Schedule contract in accordance with FAR 8.404.
3. MINIMUM ORDER: \$50.00
4. GEOGRAPHIC COVERAGE: 48 Contiguous United States, District of Columbia, Alaska, Hawaii, and Puerto Rico
5. POINT OF PRODUCTION:  
Mine Safety Appliances Company  
Instrument Division  
1000 Cranberry Woods Drive  
Cranberry Township, PA 16606 (Butler County)
6. BASIC DISCOUNT OR NET GOVERNMENT PRICE:  
The pricing shown in this schedule reflects the GSA net price (discounts have already been applied.)
7. QUANTITY DISCOUNT: None
8. PROMPT PAYMENT TERMS: Net 30
9. GOVERNMENT COMMERCIAL CREDIT CARD (GCCC):  
VISA, Mastercard
- 9a. GOVERNMENT COMMERCIAL CREDIT CARD (GCCC):  
Accepted above micropurchase level
10. FOREIGN ITEMS: None
- 11a. TIME OF DELIVERY: 60 days after receipt of order (ARO)
- 11b. EXPEDITED DELIVERY: 5-10 days ARO - dependent upon availability of parts
- 11c. OVERNIGHT AND 2-DAY DELIVERY: Order by order basis dependent upon availability of parts. Contact order point for freight charges.
- 11d. URGENT REQUIREMENT: Clause I-FSS-140-B of the contract applies. Agencies can contact contractor's representative to possibly effect faster delivery.
12. FOB POINT: Destination
13. ORDERING ADDRESS, TELEPHONE AND FAX NUMBER:  
Mine Safety Appliances Company  
P.O. Box 426  
Pittsburgh, PA 15230-0426  
Phone: 1-800-MSA-2222  
Fax: 1-800-967-0398
14. PAYMENT ADDRESS:  
Mine Safety Appliances Company  
P.O. Box 640348  
Pittsburgh, PA 15264-0348
15. WARRANTY PROVISION: Commercial
16. EXPORT PACKING CHARGES: In accordance with clause F-FSS-736-A, Export Traffic Release
17. TERMS AND CONDITIONS OF GCCC ACCEPTANCE:  
Payment by GCCC (accepted without additional discount)
18. TERMS AND CONDITIONS OF RENTAL, MAINTENANCE, AND REPAIR: MSA pricing includes free on-site training and without any charge for associated travel expenses for training provided the required tools, spare parts, overhaul kits and testing equipment are purchased and available for use at the time of training. Level I training is provided by use of manual (furnished with each complete instrument purchased). Additionally, questions concerning the content of the manual can be answered by calling the telephone numbers printed on the front page of the manual.
19. TERMS AND CONDITIONS OF INSTALLATION: N/A
20. TERMS AND CONDITIONS OF REPAIR PARTS INDICATING DATE OF PARTS PRICE LISTS AND ANY DISCOUNTS FROM LIST PRICES (IF AVAILABLE): Parts not covered in the attached price list will be priced at the MSA published list price in effect at the time of order.
- 20a. TERMS AND CONDITIONS FOR ANY OTHER SERVICES: N/A
21. LIST OF SERVICE AND DISTRIBUTION POINTS: N/A
22. LIST OF PARTICIPATING DEALERS: N/A
23. PREVENTIVE MAINTENANCE: N/A
24. ENVIRONMENTAL ATTRIBUTES: MSA has a recycling program for calibration gas cylinders. Contact 1-800-MSA-2222 for details. NOTE: Calibration cylinders are considered Hazardous by DOT. Material Safety Data Sheets, product info., etc. can be obtained by calling MSA's "Quicklit" information services: 1-800-672-9010
25. DATA UNIVERSAL NUMBER SYSTEM (DUNS): 250-668-780
26. MSA is registered in the Central Contractor Registration (CCR) database as required for accepting DOD orders under this contract.

**DETECTOR TUBES  
FOR USE WITH HAND-HELD PUMPS**

(see Data sheet o8-00-02)

Use these tubes to detect a wide variety of substances, as detailed below.  
Information on hand-held pumps follows on page 111.



<i>Substance Measured</i>	<i>Detector Tube applicable</i>	<i>Part No. (1 pkg. of 10 tubes)</i>	<i>Measuring range (ppm)</i>	<i>Threshold Limit Value 1998 ACGIH (ppm)</i>	<i>GSA Price</i>
Acetaldehyde	Formaldehyde-0.1	497649	5-50	25 (ceiling)	\$30.90
Acetic Acid	Acetic Acid-1	804138	1-80	10	\$30.90
Acetone	Acetone-100	804141	100-10,000	500	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Acetylene dichloride, cis and trans (1,2 Dichloroethylene)	Trichloroethane-5	487343	10-500	200	\$26.57
	Qualitest QL	497665	n/a		\$26.56
Acetylene tetrabromide (1,1,1,2,2-Tetrabromoethane)	Trichloroethane-5	487343	5-200	1	\$26.57
	Qualitest QL	497665	n/a		\$26.56
Acetylene tetrachloride (1,1,1,2,2-Tetrachloroethane)	Trichloroethane-5	487343	50-1000	1	\$26.57
	Qualitest QL	497665	n/a		\$26.56
Ammonia	NH3-2	804405	2-500	25	\$30.90
	NH3-20	800300	20-1000		\$26.56
	NH3-0.1%	804406	0.1-10 Vol.-%		\$26.56
n-Amyl chloride (1-Chloropentane)	Trichloroethane-5	487343	5-550	-	\$26.57
Benzene	Aromatic HC	804132	5-500	.5	\$26.56
	C6H6-1	807024	1-100		\$26.56
	C6H6-5	804411	5-100		\$26.56
	Qualitest QL	497665	n/a		\$26.56
Bromine	C12-0.2	803944	0.2-3	0.1	\$30.90
Bromobenzene	Aromatic HC	804132	30-720	-	\$26.56
Bromoethane (Ethyl bromide)	Trichloroethane-5	487343	15-400	5	\$26.57
Bromoform (Tribromomethane)	Trichloroethane-5	487343	7-200	0.5	\$26.57
Bromomethane (Methyl bromide)	Trichloroethane-5	487343	20-270	1	\$26.57
1,3-Butadiene	Ethylene-50	804428	100-1200	2	\$30.90
	Qualitest QL	497665	n/a		\$26.56
n-Butane	Propane-200	804418	200-3800	800	\$30.90
	Qualitest QL	497665	n/a		\$26.56
n-Butanol (Butyl Alcohol)	Ethanol-100	804136	100-3900	50 (ceiling)	\$26.56
sec. Butanol (sec-Butyl Alcohol)	Ethanol-100	804136	300-5100	100	\$26.56
1-Butene (1-Butylene)	Ethylene-50	804428	100-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
2-Butylene, cis and trans (2-Butylene)	Ethylene-50	804428	200-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Butyl Alcohol (n-Butanol)	Ethanol-100	804136	100-3900	50 (ceiling)	\$26.56
sec-Butyl Alcohol (sec-Butanol)	Ethanol-100	804136	300-5100	100	\$26.56
n-Butylamine	Triethylamine-5	804134	2-28	5 (ceiling)	\$26.56
iso-Butylamine	Triethylamine-5	804134	3-36	-	\$26.56
sec-Butylamine	Triethylamine-5	804134	2-18	-	\$26.56
t-Butylamine	Triethylamine-5	804134	2-14	-	\$26.56
n-Butylchloride (1-Chlorobutane)	Trichloroethane-5	487343	5-170	-	\$26.57
	Qualitest QL	497665	n/a		\$26.56
1-Butylene (1-Butene)	Ethylene-50	804428	100-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
2-Butylene (2-Butene, cis and trans)	Ethylene-50	804428	200-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
n-Butyl mercaptan	Ethylmercaptan-0.5	804589	1.5-15	0.5	\$30.90
t-Butyl mercaptan	Ethylmercaptan-0.5	804589	0.8-5	-	\$30.90
Carbon Dioxide	CO2-100	497606	100-3000	5000	\$26.56
	CO2-0.1%	487333	0.1-7.0 Vol.-%		\$26.57
	CO2-1%	804419	1-20 Vol.-%		\$26.57

Substance Measured	Detector Tube applicable	Part No. (1 pkg. of 10 tubes)	Measuring range (ppm)	Threshold Limit Value 1998 ACGIH (ppm)	GSA Price
Carbon Disulfide	CS2-2	492514	2-300	10	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Carbon Monoxide	CO-5	803943	5-1000		\$26.56
	CO-10	487334	10-3000		\$26.57
	CO-3000	815507	3000-70000		\$26.56
	CO-0.3%	487335	0.3-7.0 Vol.-%		\$26.57
	CO-10/color	47134	10-1000		\$26.56
	Qualitest QL	497665	n/a		\$26.57
Chlorine	Cl2-0.2	803944	0.2-30	0.5	\$30.90
	ClO2-0.05	804133	1-46		\$26.56
Chlorine dioxide	ClO2-0.05	804133	0.05-15	0.1	\$26.56
Chlorobenzene	Aromatic HC	804132	40-610	10	\$26.56
Chlorobromomethane	Trichloroethane-5	487343	5-180	200	\$26.57
1-Chlorobutane (n-Butylchloride)	Trichloroethane-5	487343	5-170	-	\$26.57
	Qualitest QL	497665	n/a		\$26.56
Chloroethane(Ethyl chloride)	Trichloroethane-5	487343	50-800	100	\$26.57
Chloroethylene (Vinyl chloride)	VC-1	803950	1-70	5	\$30.90
	Trichloroethane-5	487343	20-550		\$26.57
Chloroform (Trichloromethane)	Trichloroethane-5	487343	8-100	10	\$26.57
1-Chloropentane (n-Amylchloride)	Trichloroethane-5	487343	5-550	-	\$26.57
1-Chloropropane (l-Propylchloride)	Trichloroethane-5	487343	5-220	-	\$26.57
2-Chloropropane (2-Propylchloride)	Trichloroethane-5	487343	8-1700	-	\$26.57
Cycloheptane	Hexane-20	497664	80-3300	-	\$30.90
Cyclohexane	Hexane-20	497664	20-3400	300	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Cyclohexylamine	Triethylamine-5	804134	7-38	10	\$26.56
Cyclooctane	Hexane-20	497664	20-2100	-	\$30.90
Cyclopentane	Hexane-20	497664	80-2700	600	\$30.90
n-Decane	Hexane-20	497664	50-500	-	\$30.90
1,2-Dibromoethane (Ethylene dibromide)	Trichloroethane-5	487343	25-700	-	\$26.57
Dibromomethane (Methylene dibromide)	Trichloroethane-5	487343	9-200	-	\$26.57
1,1-Dichloroethane (Ethylidene chloride)	Trichloroethane-5	487343	8-300	100	\$26.57
1,2-Dichloroethane (Ethylene dichloride)	CH2Cl2-50	804416	30-720	10	\$30.90
1,1-Dichloroethylene (Vinylidene chloride)	Trichloroethane-5	487343	10-600	5	\$26.57
	Trichloroethane-5	487343	10-500		200
1,2-Dichloroethylene (Acetylene dichloride, cis and trans)	Trichloroethane-5	487343	10-500	200	\$26.57
Dichloromethane (Methylene chloride)	CH2Cl2-50	804416	50-1000	50	\$30.90
1,2-Dichloropropane (Propylene dichloride)	Trichloroethane-5	487343	5-440	75	\$26.57
1,3-Dichloropropane (Trimethylene dichloride)	Trichloroethane-5	487343	5-220	-	\$26.57
Diesel Oil	Qualitest QL	497665	n/a	-	\$26.56
Diethylamine	Triethylamine-5	804134	3-27	5	\$26.56
Dimethylamine	Triethylamine-5	804134	3-27	5	\$26.56
2,2-Dimethylbutane	Hexane-20	497664	100-4900	-	\$30.90
Ethanol (Ethyl Alcohol)	Ethanol-100	804136	100-6000	1000	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Ethene (Ethylene)	Ethylene-50	804428	25-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Ethyl Alcohol (Ethanol)	Ethanol-100	804136	100-6000	1000	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Ethylamine	Triethylamine-5	804134	4-55	5	\$26.56
Ethyl benzene	Tol.-5	803947	5-1800	100	\$26.56
Ethyl bromide (Bromoethane)	Trichloroethane-5	487343	15-400	5	\$26.57
Ethyl chloride (Chloroethane)	Trichloroethane-5	487343	50-8000	100	\$26.57
Ethylene (Ethene)	Ethylene-50	804428	25-5000	-	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Ethylenediamine	Triethylamine-5	804134	5-27	10	\$26.56
Ethylene dibromide (1,2-Dibromoethane)	Trichloroethane-5	487343	25-700	-	\$26.57
Ethylene dichloride (1,2-Dichloroethane)	CH2Cl2-50	804416	30-720	10	\$30.90
Ethylidene chloride (1,1-Dichloroethane)	Trichloroethane-5	487343	8-300	100	\$26.57
Ethyl mercaptan	Ethylmercaptan-0.5	804589	0.5-80	0.5	\$30.90
Formaldehyde	Formaldehyde-0.1	497649	0.1-55	0.3 (ceiling)	\$30.90
	Qualitest QL	497665	n/a		\$26.56
Formic Acid	Qualitest QL	497665	n/a	5	\$26.56
	Acetic Acid-1	804138	2-160		\$30.90

Substance Measured	Detector Tube applicable	Part No. (1 pkg. of 10 tubes)	Measuring range (ppm)	Threshold Limit Value 1998 ACGIH (ppm)	GSA Price
Gasoline	Gasoline-30	492870	30-6000	300	\$26.56
	Qualitest QL	497665	n/a		\$26.56
n-Heptane	Hexane-20	497664	20-2600	400	\$30.90
n-Hexane	Hexane-20	497664	20-3200	50	\$30.90
Hydrogen Chloride	HCl-1	803948	1-30	5 (ceiling)	\$37.07
	Qualitest QL	497665	n/a		\$26.56
Hydrogen Cyanide	HCN-2	803945	2-50	4.7 (ceiling)	\$37.07
Hydrogen Fluoride	HF-1	804142	1-50	3 (ceiling)	\$26.56
Hydrogen Sulfide	H2S-1	487339	1-200	10	\$26.57
	H2S-100	487340	100-4000		\$26.57
	Qualitest QL	497665	n/a		\$26.56
Isobutane (Methylpropane)	Propane-200	804418	200-4200	-	\$30.90
Isobutanol (Isobutyl Alcohol, 2-Methylpropyl Alcohol)	Ethanol-100	804136	100-2900	50	\$26.56
Isobutene (Isobutylene, Methylpropene)	Ethylene-50	804428	400-2600	-	\$30.90
Iso-Butylamine	Triethylamine-5	804134	3-36	-	\$26.56
Isobutylene (Isobutene, Methylpropene)	Ethylene-50	804428	400-2600	-	\$30.90
Isobutyl Alcohol (Isobutanol, 2-Methylpropyl Alcohol)	Ethanol-100	804136	150-2900	50	\$26.56
Iso Octane	Hexane-20	497664	100-3000	-	\$30.90
Isopropanol (Isopropyl Alcohol, 2-Propanol)	Ethanol-100	804136	200-5000	400	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Isopropyl Alcohol (Isopropanol, 2-Propanol)	Ethanol-100	804136	200-5000	400	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Isopropylamine	Triethylamine-5	804134	5-30	5	\$26.56
Isopropyl mercaptan	Ethylmercaptan-0.5	804589	0.5-5.5	-	\$30.90
Kerosene	Qualitest QL	497665	n/a	-	\$26.56
Ketones	Qualitest QL	497665	n/a	-	\$26.56
Liquified Petroleum Gases	Gasoline-30	492870	Semiquantitative	-	\$26.56
	Qualitest QL	497665	n/a		\$26.56
Mercury	Hg-0.1 mg/m3	497663	0.1-0.8 mg/m3 (0.01-0.08 ppm)	0.025 mg/m3 (inorganic)	\$37.07
Methanol (Methyl Alcoho1)	Ethanol-100	804136	100-2350	200	\$26.56
Methyl Alcohol (Methanol)	Ethanol-100	804136	100-2350	200	\$26.56
Methylamine	Triethylamine-5	804134	4-55	5	\$26.56
Methyl benzene (Toluene)	Tol.-5	803947	5-1000	50	\$26.56
Methyl bromide (Bromomethane)	Trichloroethane-5	487343	9-200	5	\$26.57
2-Methyl butane	Hexane-20	497664	50-3000	-	\$30.90
Methyl chloroform (1,1,1-Trichloroethane)	Trichloroethane-5	487343	5-1500	350	\$26.57
	Qualitest QL	497665	n/a		\$26.56
Methylcyclohexane	Hexane-20	497664	80-4900	400	\$30.90
Methylcyclopentane	Hexane-20	497664	150-3700	-	\$30.90
Methylene chloride (Dichloromethane)	CH2Cl2-50	804416	50-1000	50	\$30.90
Methylene dibromide (Dibromomethane)	Trichloroethane-5	487343	9-200	-	\$26.57
Methyl Ethyl Ketone (MEK)	MEK 50	813334	50-4000	-	\$37.07
	Qualitest QL	497665	n/a		\$26.56
Methyl mercaptan	Ethylmercaptan-0.5	804589	0.5-5	0.5	\$30.90
2-Methyl pentane	Hexane-20	497664	150-4500	-	\$30.90
3-Methyl pentane	Hexane-20	497664	100-3700	-	\$30.90
Methylpropane (Isobutane)	Propane-200	804418	200-4200	-	\$30.90
Methylpropene (Isobutylene, Isobutene)	Ethylene-50	804428	400-2600	-	\$30.90
2-Methylpropyl Alcohol (Isobutanol, Isobutyl Alcohol)	Ethanol-100	804136	150-2900	50	\$26.56
Nitrogen Dioxide	N02-0.5	487341	0.5-50	3	\$30.89
	N02-2	804435	2-140		\$26.56
Nitrous Fumes	Nitr.-0.5	487336	0.5-50	-	\$30.89
	Nitr.-2	804425	2-140		\$30.90
	Nitr.-10	803946	10-300		\$26.56
	Nitr.-50	804426	50-3000		\$30.90
n-Nonane	Hexane-20	497664	50-2800	200	\$30.90
n-Octane	Hexane-20	497664	50-3000	300	\$30.90
Ozone	Ozone-0.05	804140	0.05-5	0.05 (ceiling)	\$26.56

Substance Measured	Detector Tube applicable	Part No. (1 pkg. of 10 tubes)	Measuring range (ppm)	Threshold Limit Value 1998 ACGIH (ppm)	GSA Price
Pentachloroethane	Trichloroethane-5	487343	10-300	-	\$26.57
n-Pentane	Hexane-20 Qualitest QL	497664 497665	50-3900 n/a	600	\$30.90 \$26.56
Perchloroethylene (Tetrachloroethylene)	Per-5 Per-10 Qualitest QL	804429 487337 497665	5-200 10-500 n/a	25	\$26.56 \$26.57 \$26.56
Phenol	Phenol-1 Qualitest QL	813778 497665	1-25 n/a	5	\$30.90 \$26.56
Phosgene	Phosgene-0.1	803949	0.1-20	0.1	\$37.07
Phosphine	PH3-0.05 PH3-0 1 PH3-50	497101 485680 489119	0.05-3 0.1-100 50-2000	0.3	\$30.90 \$26.56 \$26.56
Propane	Propane-200 Qualitest QL	804418 497665	200-4000 n/a	2500	\$30.90 \$26.56
n-Propanol (Propyl Alcohol)	Ethanol-100 Qualitest QL	804136 497665	100-3000 n/a	200	\$26.56 \$26.56
2-Propanol (Isopropanol, Isopropyl Alcohol)	Ethanol-100 Qualitest QL	804136 497665	200-5000 n/a	400	\$26.56 \$26.56
Propene (Propylene)	Ethylene-50 Qualitest QL	804428 497665	20-5000 n/a	-	\$30.90 \$26.56
Propyl Alcohol (n-Propanol)	Ethanol-100 Qualitest QL	804136 497665	100-3000 n/a	200	\$26.56 \$26.56
n-Propylamine	Triethylamine-5	804134	2-28	-	\$26.56
1-Propylchloride (1-Chloropropane)	Trichloroethane-5	487343	5-220	-	\$26.57
2-Propylchloride (2-Chloropropane)	Trichloroethane-5	487343	8-1700	-	\$26.57
Propylene (Propene)	Ethylene-50 Qualitest QL	804428 497665	20-5000 n/a	-	\$30.90 \$26.56
Propylene dichloride (1,2-Dichloropropane)	Trichloroethane-5	487343	5-440	75	\$26.57
n-Propyl mercaptan	Ethylmercaptan-0.5	804589	0.7-8.0	-	\$30.90
Styrene	Styrene-10 Qualitest QL	804135 497665	10-300 n/a	20	\$26.56 \$26.56
Sulfur Dioxide	SO2-1 SO2-5 SO2-100	487338 497662 497661	0.5-25 5-120 100-4000	2	\$30.89 \$30.90 \$30.90
Sulfur Hexafluoride decomposition products	SF6 Decomposition Products	804433	0.5-15	1000	\$37.07
1,1,2,2-Tetrabromoethane (Acetylene tetrabromide)	Trichloroethane-5	487343	5-200	1	\$26.57
1,1,2,2-Tetrachloroethane	Trichloroethane-5	487343	50-1000	1	\$26.57
Tetrachloroethylene (Perchloroethylene)	Per-5 Per-10 Qualitest QL	804429 487337 497665	5-200 10-500 n/a	25	\$26.56 \$26.57 \$26.56
Tetrahydrofuran	Ethanol-100	804136	Semi-quant	200	\$26.56
Toluene (Methyl benzene)	Tol.-5 Qualitest QL	803947 497665	5-1000 n/a	50	\$26.56 \$26.56
Tribromomethane (Bromoform)	Trichloroethane-5	487343	7-200	0.5	\$26.57
1,1,1-Trichloroethane (Methyl chloroform)	Trichloroethane-5 Qualitest QL	487343 497665	5-1500 n/a	350	\$26.57 \$26.56
1,1,2-Trichloroethane (Vinyltrichloride)	Trichloroethane-5	487343	10-170	10	\$26.57
Trichloroethene (Trichloroethylene)	Tri-5	487342	5-250	50	\$30.89
Trichloroethylene (Trichloroethene)	Tri-5	487342	5-250	50	\$30.89
Trichloromethane (Chloroform)	Trichloroethane-5	487343	8-100	10	\$26.57
1,2,3-Trichloropropane	Trichloroethane-5	487343	10-1200	10	\$26.57
Triethylamine	Triethylamine-5	804134	5-30	1	\$26.56
Trimethylamine	Triethylamine-5	804134	5-30	5	\$26.56
Trimethylene dichloride (1,3-Dichloropropane)	Trichloroethane-5	487343	5-220	-	\$26.57
2,2,4-Trimethylpentane	Hexane-20	497664	100-3000	-	\$30.90
Vinyl Chloride (Chloroethylene)	VC-1 Qualitest QL	803950 497665	1-70 n/a	5	\$30.90 \$26.56
Vinylidene chloride (1,1-Dichloroethylene)	Trichloroethane-5	487343	10-600	5	\$26.57
Vinyltrichloride (1,1,2-Trichloroethane)	Trichloroethane-5	487343	10-170	10	\$26.57
o-Xylene (1,2-Xylene)	Tol.-5 Qualitest QL	803947 497665	5-2500 n/a	100	\$26.56 \$26.56
m-Xylene (1,3-Xylene)	Tol.-5 Qualitest QL	803947 497665	5-2500 n/a	100	\$26.56 \$26.56
p-Xylene (1,4-Xylene)	Tol.-5 Qualitest QL	803947 497665	5-1200 n/a	100	\$26.56 \$26.56

**INDUSTRY ACTION SETS**

Specific detector tubes for specific industry needs. All sets are boxes of 12 tubes.



Part No.	Description	GSA Price
655864	Agricultural Set	\$37.07
655868	Pulp and Paper Set	\$30.90
710981	Indoor Air Quality Set	\$200.80
655869	Pharmaceutical Set	\$37.07
655865	Petroleum Set	\$26.56
655867	Mining Set	\$37.07
655866	Synthetics Set	\$30.90
655933	Chemical Vapor Deposition Process Set	\$37.07
655934	Etching Process Set	\$37.07
655935	Epitaxy Process Set	\$37.07
655931	Crystal Growth Process Set	\$37.07

**CHEMICAL WARFARE AGENT DETECTOR TUBES**

Detect a wide range of nerve, blister, blood, and choking agents.

- Quick, simple to use; easy to interpret results • “Go/No Go” style
- Unparalleled flexibility and ease of sampling
- Can be used with MSA’s full line of pumps, including the Kwik-Draw, Gas-Tester II, and Toximeter II pumps
- Economically priced • All sold as box of 10 tubes

Part No.	Description	GSA Price
10007650	Blister-Lewisite	\$49.43
10007651	Blood and Choking—CG, DP, AC, CK	\$49.43
10007652	Blister-variety, including Mustard Gas	\$49.43
10007653	Blister-Mustard Gas	\$49.43
10007654	Nerve-Sarin, VX, GA, GD, etc.	\$49.43

**DETECTOR TUBE KITS**

Part No.	Description	GSA Price
10044998	Chemical Warfare Tube Kit	\$960.51
10049765	Chemical Warfare Tube Kit with Escort ELF Pump	\$1862.21
711285	Navy Detector Tube Kit	\$313.63
10044999	Clandestine Lab Detector Tube Kit	\$776.25
10045000	DND Sampling Kit with Kwik-Draw Pump	\$627.27
10045001	DND Supplement Kit	\$74.05

**OTHER DETECTOR TUBES**

Part No.	Substance Measured	Packaging	GSA Price
655789	Methane/Natural Gas	box of 10	\$37.07
655791	Water Vapor	box of 10	\$37.07
655863	Water Vapor	box of 10	\$37.07
655862	Chlorine	box of 10	\$30.89
655932	H <sub>2</sub> S 0.1–4% volume	box of 10	\$37.07
710391	Methyl Bromide-2	box of 10	\$37.07
710544	Methyl Bromide-200	box of 10	\$30.89
710918	Indoor Air Set	box of 10	\$37.07
804403	Charcoal Filter	box of 10	\$26.57
804421	CO-10 (Vol %)	box of 10	\$26.57
804423	CO-0.1%	box of 10	\$17.30



**DETECTOR TUBE PUMPS**

MSA’s Kwik-Draw and Kwik-Draw Deluxe Pumps can be used with an assortment of MSA’s detector tubes to spot-test atmospheres for a wide variety of toxic substances. They are designed for one-hand operation and consistent delivery of a sample draw volume of 100 milliliters (ml).

The Toximeter II Automatic Detector Tube Pump makes the sampling process easier, allowing the user to preset the number of pump strokes (from 1 to 250 pump strokes). Inherently safe, the automatic pump works with all MSA detector tubes. It can also be used as a sampling pump.

The Gas-Tester II H Pump is set for action by compressing the bellows. A pump stroke is started by pressing the release button. When the sample (100ml) is drawn through the tube, the end-of-stroke indicator changes color. An accurate measurement is obtained because the sample draw procedure itself is controlled only by the specifications of the pump and the flow resistance of the detector tube.

Part No.	Description	GSA Price
488543	Kwik-Draw Detector Tube Pump with remote sampling adapter and carrying pouch	\$180.34
487500	Kwik-Draw Detector Tube Pump with remote sampling adapter, end-of-stroke indicator, and carrying pouch	\$219.54
711142	Basic Kwik-Draw Pump Assembly	\$145.06
655585	Toximeter II Automatic Pump	\$921.30
696944	Gas Tester II-H Pump	\$272.47

**DETECTOR TUBE ACCESSORIES**

Part No.	Description	GSA Price
58330	O-Ring, Nitrile, 70 Dur. .364	\$0.55
66137	Hex Screw Set, CRPT, SS, 4-	\$0.09
72762	Tube Tip Breaker	\$3.09
463801	Sampling Pump Tube Holder	\$4.93
473564	Aspirator Bulb, metal orifice	\$15.50
488394	Black Vinyl Pouch	\$23.24
628082	O-Ring, Neoprene, Black, 1" dia. x B/bg" thk	\$0.43
804437	Trainer Detector Tube, box of 10	\$26.56
813929	Detector Tube Handbook	\$9.41



### ESCORT SERIES PERSONAL SAMPLING PUMPS

(See Data Sheet o8-04-01)

The patented Escort ELF Sampling Pump can be used for personal and area sampling. The state-of-the-art electronic laminar flow sensor, consisting of a laminar flow element and pressure sensor, provides constant flow (volume) control, with  $\pm 2.5\%$  regulation of flow rate (from 1 to 3 lpm) and automatic compensation for changes in battery voltage, temperature, altitude, and sample load. An internal secondary standard calibrates the pump continuously and needs to be checked against a primary standard only once a month (or every 200 hours for coal mine dust sampling).

The Escort LC Sampling Pump can be used with a variety of personal and area sampling devices to collect such airborne contaminants as asbestos fibers, toxic gases, vapors, particulates, fumes, and mists. It can also be used to sample silica dust, coal dust, and organic vapors. The Escort pump is exceptionally compact, lightweight, and quiet in operation. Engineered for use in "hostile" environments, the unit can be sprayed with water while it is operating without being damaged.

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Part No.	Description	GSA Price
711396	A-PMP-755003-5-ELF1-5-3-0-0	\$3166.57
711398	A-PMP-755003-1-ELF1-2-3-0-0	\$686.21
711399	A-PMP-755003-1-ELF2-1-3-0-0	\$679.16
711400	A-PMP-755003-1-ESLC-1-1-0-0	\$360.68
805558	A-PMP-1-ELF1-0-1-0-0	\$505.88
805559	A-PMP-1-ELF1-1-3-0-0	\$679.16
805560	A-PMP-1-ELF1-1-1-0-0	\$551.72
805563	A-PMP-5-ELF1-5-1-0-0	\$2849.92

### ESCORT 42 CFR SAMPLING PUMP KITS

Complete with 3-piece 37mm MCE filter cassette, 0.8 micron pore size, 10 filters per kit; 110V charger, sampling line and standard packaging.

Part No.	Description	GSA Price
711585	ELF Model	\$612.86
711586	LC Model	\$387.18

### ACCESSORIES

Part No.	Description	GSA Price
495965	Single Unit Charger, 220V	\$52.89
497702	Battery Pack with O-Ring	\$146.62
802922	ELF Pump Overhaul Kit	\$51.84

### SAMPLING PUMP ACCESSORIES

(See Data Sheet o8-09-01 for more info.)

MSA sampling pump accessories and air sampling equipment allow monitoring of many different contaminants in various applications. Sampling pump accessories can be used in personal and area sampling for a wide variety of airborne contaminants such as asbestos fibers, toxic gases, vapors, particulates, mists and fumes.

### GENERAL PURPOSE FILTER CASSETTES

Part No.	Description	GSA Price
695677	with 25 mm, 0.8 $\mu$ pore size	\$185.70
695676	with 37 mm, 0.8 $\mu$ pore size	\$155.15

### FILTER CASSETTE CASES

Part No.	Description	GSA Price
695681	2-piece, 25 mm, pack of 50	\$138.26
625412	2-piece, 37 mm, pack of 12	\$36.20
449347	3-piece, 37 mm, pack of 10	\$29.70
711360	Coal Mine Dust Sampling Data Card, non-reg.	\$11.37

### CALIBRATION ACCESSORIES

Part No.	Description	GSA Price
456243	Cyclone Assembly	\$125.70
457392	37 mm Stainless Steel Coupler for 3-piece filter cassette case used with Cyclone Assembly	\$13.70
456226	Sampling Line Assembly (used with all pumps and filter cassette cases)	\$12.32

### SAMPLING PUMP CALIBRATION CHECK DEVICES

(See Bulletin o810-34 for more info.)

A primary calibration device, the DigiCal™ Calibrator provides instantaneous calibration for instruments like the MSA Escort LC or the secondary flow standard inside the Escort ELF Sampling Pumps. Just press the plunger and the DigiCal Calibrator does the work. Its unique flow cell replaces conventional bubble tubes and makes calibration easier.



### PRIMARY CALIBRATION DEVICES

Part No.	Description	GSA Price
655101	DigiCal Calibrator	\$803.99
655112	110V Charger with A/C Adapter	\$6.78
655169	Sub C Battery Pack	\$57.83

### SECONDARY CALIBRATION DEVICES

Part No.	Description	GSA Price
490197	Flowmeter for use with Flow-Lite and Escort Sampling Pumps, 0.2 to 4 lpm	\$68.26
490198	Flowmeter for use with Flow-Lite and Escort Sampling Pump with Gemini Twin-Port Sampler, 30 to 370 mlpm	\$204.44



**MSA PULSAR™**  
Single-Gas Detector

### PULSAR SINGLE-GAS DETECTOR

The MSA PULSAR Single-Gas Detector provides maintenance-free, 24-month monitoring for the detection of CO, H<sub>2</sub>S, or O<sub>2</sub>. Key features of the PULSAR Single-Gas Detector include:

- The PULSAR requires no field calibration, battery or sensor replacement.
- Spring and suspension attachment clips are standard—keeping the unit attached during even the roughest use. The unit can be worn inside or outside a pocket, as well as on the belt or helmet.
- A long-life battery offers 33% more capacity than the competition.
- A numeric display with characters 4x larger than the competition allows users to count down service life from 24 months with accuracy and confidence.

- It's designed to survive a 6-ft drop and to meet an environmental protection rating of IP54 to help ensure that the unit will be virtually impervious to water and dust ingress.
- Because the PULSAR Single-Gas Detector has a built-in gas-delivery adapter, no easy-to-misplace accessories are needed to conduct gas-response tests.
- Newly designed, MSA-built, stainless steel sensors with solid electrolyte construction contain no liquid, eliminating the possibility of sensor leakage.
- A triple alarm system, complete with audio, vibrating, and visual alarms leaves no doubt for the user in an alarm situation.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 128.

### PULSAR™+ SINGLE-GAS DETECTOR

The PULSAR+ Single-Gas Detector is reliable, easy-to-use, and durable. With sensor options for CO, H<sub>2</sub>S and O<sub>2</sub>, this unit will provide industry-leading performance and stand up to the roughest handling in the toughest environments.

- Large, easy-to-read backlit display
- One-button autocalibration
- Distinctive triple alarm system—audio, visual and vibrating alarms
- Small, thin sensor for easy replacement—no liquid, no leakage
- Extremely durable
- Options for suspender- and cell phone-style clips and lanyards
- Highly water- & dust-resistant
- Fully adjustable warning, peak, STEL and TWA alarm levels
- Large rubber buttons for easy operation

### PULSAR+ SINGLE-GAS DETECTORS

Part No.	Instrument Type	GSA Price
10036171	CO	\$267.29
10036174	CO with vibrating alarm	\$302.55
10036172	H <sub>2</sub> S	\$267.29
10036175	H <sub>2</sub> S with vibrating alarm	\$302.55
10036170	O <sub>2</sub>	\$267.29
10036173	O <sub>2</sub> with vibrating alarm	\$302.55

### PULSAR+ SINGLE-GAS DETECTORS FOR THE FIRE SERVICE

Part No.	Instrument Type	GSA Price
10040334	CO	\$267.29
10040335	CO with vibrating alarm	\$302.55
10041735	CO Fire Service Kit	\$351.92
10041736	CO Fire Service Kit, vibrating	\$387.18



### ACCESSORIES FOR CRICKET SERIES "DISPOSABLE" PERSONAL ALARMS

Part No.	Description	GSA Price
804626	Test Gas Station	\$30.15

### ACCESSORIES FOR RESPONDER SERIES INSTRUMENTS

Part No.	Description	GSA Price
710480	Orange Cordura Protective Jacket, w/neck strap	\$11.91
710916	Black Vinyl Protective Jacket w/neck strap	\$17.59
710490	Replacement Sensor, CO	\$197.47
710944	Replacement Sensor, H <sub>2</sub> S	\$197.47
710966	Replacement Sensor, O <sub>2</sub>	\$140.34
10021355	Replacement Sensor, Cl <sub>2</sub>	\$194.56
10021356	Replacement Sensor, ClO <sub>2</sub>	\$194.56
710489	Belt clip	\$1.91
458169	Remote O <sub>2</sub> Sensor with 10-ft cable	\$193.94

### SOLARIS™ MULTIGAS DETECTOR

The Solaris Multigas Detector is an affordable, durable, reliable, easy-to-use portable instrument for detecting the presence of O<sub>2</sub>, H<sub>2</sub>S, CO and combustible gas. It is designed to withstand rough handling in harsh environments. Best of all, it delivers MSA's commitment to quality at the smallest size and, even smaller price.



- Ergonomic Design—For maximum comfort.
- Alarm System—World-class triple alarm system with 100+ decibel audible alarm, multiple high-intensity visual alarm and strong vibrating alarm.
- Display Features—Superior display features simultaneous gas concentration display, backlighting for easy reading and alphanumeric message bar for easy use.
- Lightweight—Under 8 oz., compact size that makes it easy to wear.
- Durable—Case with rubberized armor provides superior protection against liquid and dust ingress (IP 65 rated).
- Long-life Battery—Rechargeable lithium ion battery provides 14+ hours of continuous run time and delivers best-in-class performance in extreme conditions.
- TIM System Compatible—Compatibility for computer automated calibration and record-keeping.
- Sampling Pump Option—Optional powered sampling pump with extensive contaminant filtering system.
- Warranty—Outstanding 2-year, all-inclusive warranty.

#### Basic Solaris Kits

Part No.	Description	GSA Price
10048148	4-Gas Instrument	\$563.49
10048150	3-Gas (LEL, O <sub>2</sub> , CO)	\$514.13
10048211	3-Gas (LEL, O <sub>2</sub> , H <sub>2</sub> S)	\$514.13
10048213	2-Gas (LEL, O <sub>2</sub> )	\$464.76

#### Standard Solaris Kits

Includes datalogging option\*

Part No.	Description	GSA Price
10048147	4-Gas Instrument	\$633.31
10048149	3-Gas (LEL, O <sub>2</sub> , CO)	\$583.95
10048212	3-Gas (LEL, O <sub>2</sub> , H <sub>2</sub> S)	\$583.95
10048214	2-Gas (LEL, O <sub>2</sub> )	\$534.58

#### Industrial Solaris Kits

Includes Econo-cal calibration kit

Part No.	Description	GSA Price
10049293	4-Gas Instrument	\$775.07
10049294	3-Gas (LEL, O <sub>2</sub> , CO)	\$725.70
10049295	3-Gas (LEL, O <sub>2</sub> , H <sub>2</sub> S)	\$725.70
10049296	2-Gas (LEL, O <sub>2</sub> )	\$676.33

#### Deluxe Solaris Kits

Includes Econo-cal calibration kit, datalogging & sampling pump\*

Part No.	Description	GSA Price
10049297	4-Gas Instrument	\$1076.92
10049298	3-Gas (LEL, O <sub>2</sub> , CO)	\$1027.55
10049299	3-Gas (LEL, O <sub>2</sub> , H <sub>2</sub> S)	\$1027.55
10049300	2-Gas (LEL, O <sub>2</sub> )	\$978.18

\*To download Solaris data, the MSA data docking module (P/N 710946) must also be purchased.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. To configure your own custom instrument, go to the ATO order system guide on page 129.

### SOLARIS ACCESSORIES AND REPLACEMENT PARTS

#### Sensors

Part No.	Description	GSA Price
4-Gas (CO, H <sub>2</sub> S, O <sub>2</sub> & Combustible)		
10049406	Sensor replacement kit	\$444.31
10046944	Replacement CO Sensor	\$141.05
10046945	Replacement H <sub>2</sub> S Sensor	\$141.05
10046946	Replacement O <sub>2</sub> Sensor	\$126.95
10046947	Replacement Combustible Sensor	\$134.00
10047967	Pre-Filter for CO sensor	\$2.82
10044927	Protective felt for sensor inlets	\$2.12
10049052	Cover label for empty sensor location	\$2.82

#### Power Supply

Part No.	Description	GSA Price
10048185	Charger Cradle Assembly	\$37.38
10047342	North American Power Supply	\$14.11
10047343	Global Power Supply	\$21.16
10049410	Vehicle Charger	\$98.74

#### Replacement Parts

Part No.	Description	GSA Price
10044994	Calibration cap	\$6.35
10046042	Horn chamber protective insert	\$3.53
10028342	Suspender style attachment clip	\$4.58
10048051	Adhesive backing strip for suspender clip	\$1.41
10040037	Replacement screw for suspender clip	\$0.71

#### Carrying Case

Part No.	Description	GSA Price
10049053	Cordura Jacket	\$29.62

#### Sampling Accessories

Part No.	Description	GSA Price
10046528	Universal Pump Probe, UL Approval	\$232.03
10047595	Universal Pump Probe, MSHA Approval	\$232.03

#### Datalogging

Part No.	Description	GSA Price
710946	Datalog Kit (Software / Infrared reader)	\$282.10
710988	Datalogging Software Only	\$172.08

#### Operational Videos

Part No.	Description	GSA Price
10049318	Solaris Multigas Detector Overview - VHS	\$21.16
10049319	Solaris Multigas Detector Overview - CD ROM	\$21.16
10048654	Replacement instruction manual on CD ROM	\$17.63
10046201	Replacement Instruction Manual, paper copy	\$17.63

#### Calibration Accessories

Part No.	Description	GSA Price
10044995	Calibration Cap Assembly	\$10.58
467895	Regulator, .25 LPM, Model RP	\$100.85
711175	Regulator, Combination, .25 LPM, Model RP	\$128.36
10045035	4-Gas RP Cylinder	\$197.47
10048280	4-Gas Econ-Cal Cylinder	\$126.95
10048789	3-Gas Econ-Cal Cylinder (CO)	\$127.02
10048890	4-Gas RP, CH <sub>4</sub> Cylinder	\$197.47
813718	3-Gas RP, CH <sub>4</sub> Cylinder (CO)	\$105.79
10048981	4-Gas Econ-Cal, CH <sub>4</sub> Cylinder	\$126.95

**SIRIUS MULTIGAS DETECTOR**

**One PID, Four Gases...Detects Hundreds of Chemicals**

The Sirius Multigas Detector provides the solution you have looked for in one complete package; incredible performance, maximum simplicity, and durable design all with MSA's commitment to quality

- Tremendous Flexibility—Users are able to simultaneously monitor for volatile organic compounds with low vapor pressures while measuring for combustible, toxic and oxygen deficient atmospheres within one reliable, easy-to-use, durable unit.
- Reliable PID performance—Integrating proprietary PID sensor design (patent pending) into our proven reliable multigas detector designs, such as the designs used in the Orion and Solaris 4-gas multigas detectors, make this combination a dependable winner and allows users to get their monitoring done reliably and quickly.
- User friendly software—Easy-to-use software allows users to focus on their tasks at hand.
- Superior patent pending PID sensor design—Superior PID sensor design reduces maintenance time and cost.
- Flexible configurations—This design combines two instruments into one.
- Loud, attention grabbing alarm system—The Sirius Multigas Detector provides outstanding alarms to clearly warn users of a hazardous situation.
- Interchangeable lithium-ion and alkaline battery packs—Keep instruments running 24 hours a day, 7 days a week.
- Easy calibration and compatibility with MSA's Total Instrument Manager—Increase user safety by easily ensuring proper sensor performance.



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Sirius Multigas Detector Kits	Part #	10.6 eV	LEL	O2	CO	H2S	Li Ion	Alka Bat	10 ft line	1 ft probe	Ret Line	Bl Boot	Cor Jac	Cal Kit	Data Log	Blk Cas	Std Cap	Lamp Cl Kit	Price
Deluxe LEL 4-Gas Lithium Ion PID	10051141	X	X	X	X	X	X		X	X	X	X	X	X		X	X		\$2,989.20
Deluxe LEL 3-Gas H <sub>2</sub> S Lithium Ion PID	10051142	X	X	X		X	X		X	X	X	X	X	X		X	X		\$2,855.20
Deluxe LEL 3-Gas CO Lithium Ion PID	10051143	X	X	X	X		X		X	X	X	X	X	X		X	X		\$2,855.20
Deluxe LEL 4-Gas Lithium Ion PID Datalog	10051144	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		\$3,236.04
Deluxe LEL 4-Gas Lithium Ion PID less bt/jac	10051117	X	X	X	X	X	X		X	X	X			X		X	X	X	\$3,008.95
Industrial LEL 4-Gas Lithium Ion PID	10051146	X	X	X	X	X	X		X	X	X	X	X				X		\$2,494.82
Industrial LEL 3-Gas H <sub>2</sub> S Lithium Ion PID	10051147	X	X	X		X	X		X	X	X	X	X				X		\$2,360.82
Industrial LEL 3-Gas CO Lithium Ion PID	10051148	X	X	X	X		X		X	X	X	X	X				X		\$2,360.82
Industrial LEL 4-Gas Lithium Ion PID no jacket	10051149	X	X	X	X	X	X		X	X	X	X					X		\$2,463.09
Industrial LEL 4-Gas Lithium Ion PID with cal	10051150	X	X	X	X	X	X		X	X	X			X	X	X	X		\$3,150.00
Economy LEL 4-Gas Alkaline PID	10051151	X	X	X	X	X		X									X		\$2,196.85
Economy LEL 3-Gas H <sub>2</sub> S Alkaline PID	10051152	X	X	X		X		X									X		\$2,062.85
Economy LEL 3-Gas CO Alkaline PID	10051153	X	X	X	X			X									X		\$2,062.85
Economy LEL 4-Gas Lithium Ion PID	10051154	X	X	X	X	X	X										X		\$2,246.22

Sirius Multigas Detector Kits																				
Deluxe CH <sub>4</sub> 4-Gas Lithium Ion PID	10051177	X	X	X	X	X	X		X	X	X	X	X	X		X	X		\$2,989.20	
Deluxe CH <sub>4</sub> 3-Gas H <sub>2</sub> S Lithium Ion PID	10051178	X	X	X		X	X		X	X	X	X	X	X		X	X		\$2,855.20	
Deluxe CH <sub>4</sub> 3-Gas CO Lithium Ion PID	10051179	X	X	X	X		X		X	X	X	X	X	X	X	X	X		\$3,102.04	
Deluxe CH <sub>4</sub> 4-Gas Lithium Ion PID Datalog	10052511	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	\$3,341.83	
Industrial CH <sub>4</sub> 4-Gas Lithium Ion PID	10051181	X	X	X	X	X	X		X	X	X	X	X				X		\$2,494.82	
Industrial CH <sub>4</sub> 3-Gas H <sub>2</sub> S Lithium Ion PID	10051182	X	X	X		X	X		X	X	X	X	X				X		\$2,360.82	
Industrial CH <sub>4</sub> 3-Gas CO Lithium Ion PID	10051183	X	X	X	X		X		X	X	X	X	X				X		\$2,360.82	
Industrial CH <sub>4</sub> 4-Gas Lithium Ion PID no jacket	10051184	X	X	X	X	X	X		X	X	X	X					X		\$2,463.09	
Economy CH <sub>4</sub> 4-Gas Alkaline PID	10051185	X	X	X	X	X		X									X		\$2,196.85	
Economy CH <sub>4</sub> 3-Gas H <sub>2</sub> S Alkaline PID	10051186	X	X	X		X		X									X		\$2,062.86	
Economy CH <sub>4</sub> 3-Gas CO Alkaline PID	10051187	X	X	X	X			X									X		\$2,062.86	
Economy CH <sub>4</sub> 4-Gas Lithium Ion PID	10051188	X	X	X	X	X	X										X		\$2,246.22	

**SIRIUS ACCESSORIES AND REPLACEMENT PARTS**

**Battery Packs**

Part No.	Description	GSA Price
10050347	Standard Rechargeable Lithium Ion Battery Pack	\$109.31
10052512	Lithium Ion Battery Charger, consists of power supply and charge adapter	\$59.95
10049412	Replaceable Alkaline Battery Pack	\$59.95
10049098	Replaceable Alkaline Battery Pack less door	\$49.37
10052513	Vehicle Charger (includes charge adapter)	\$141.05

**Sampling Accessories**

Part No.	Description	GSA Price
10040665	Sampling Line with Quick-Connect, 10-foot polyurethane	\$24.23
10040664	Sampling Line with Quick-Connect, 25-foot polyurethane	\$34.62
10049058	Sampling Line with Quick-Connect, 10-foot teflon	\$51.13
10049057	Sampling Line with Quick-Connect, 25-foot teflon	\$58.18
10040667	Sampling Line with Quick-Connect, 3-ft polyurethane coiled	\$42.32
10042621	Probe, 1-foot	\$90.27
10042622	Probe, 3-foot	\$98.03
10040589	Probe, 8-inch	\$41.61

**Protective Jackets, Boots and Carrying Attachments**

Part No.	Description	GSA Price
10052514	Black Rubber Boot (includes harness)	\$54.30
10050122	Cordura Jacket (includes harness)	\$31.74
474555	Shoulder Harness only	\$8.18
10050976	Retractable Carrying Line with Belt Clip	\$28.21
10051803	Wrist Harness	\$24.68

**Calibration Gas Kits and Cylinders**

Part No.	Description	GSA Price
<b>Flow Control</b>		
10050984	RP .25 lpm Fixed-Flow Regulator Kit (includes tubing & fitting, less gas)	\$165.70
10050985	Gas Miser Demand RP Regulator (includes tubing and fitting, less gas)	\$310.27
10050986	Combination Regulator Kit (includes tubing and fitting, less gas)	\$225.64
10041225	Calibration Tubing	\$22.47
10041558	Calibration Fitting	\$19.39
711192	Case Assembly for Calibration Kit, holds two 58 liter cylinders	\$41.61

**Calibration Gas Cylinders**

Part No.	Description	GSA Price
10045035	4 Gas RP Cylinder	\$197.47
10048280	4 Gas Econo-Cal Cylinder	\$126.95
10048789	3 Gas Econo-Cal Cylinder ( CO )	\$127.02
10048890	4 Gas RP CH4 Cylinder	\$197.47
10048981	4 Gas Econo-Cal, CH4 Cylinder	\$126.95

**Long-Term Storage Kit**

Part No.	Description	GSA Price
10051176	Includes 4-Gas PID, Lithium Ion and Alkaline Battery Packs, Vehicle Charger, 10' sampling line w/ 1' probe, retractable carrying line w/ belt clip, Cordura jacket and black boot, Econo-Cal kit, Data Link w/software, 4 replacement sensors & PID Lamp, lamp cleaning kit, standard lamp cover and case	\$3,601.36

**Replacement Lamps and Sensors**

Part No.	Description	GSA Price
10049692	10.6 eV Lamp	\$208.05
100252297	11.7 eV Lamp	\$279.46
10052298	9.8 eV Lamp	\$211.58
10051717	4 Sensor Kit (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)	\$423.15
10049808	Combustible Sensor (both LEL and CH <sub>4</sub> )	\$126.95
10049806	Oxygen	\$119.89
10049804	Carbon Monoxide	\$134.00
10049805	Hydrogen Sulfide	\$134.00
10049807	Long-Term Storage Oxygen Sensor (hermetically sealed for 2-year storage)	\$141.05

**Accessories**

Part No.	Description	GSA Price
10047463	Disposable Ionization Chamber	\$41.12
10049691	Lamp Cleaning Kit	\$105.79
10049680	Filter Replacement Kit with O rings and replacement dust filters	\$14.11
10050841	Standard Lamp Cover	\$13.40
10050750	Tamper-Proof Lamp Cover	\$13.40
636913	Sirius Multigas Detector Screwdriver	\$3.81
10050856	Sirius Multigas Detector Instructional Video	\$21.16
10048887	Instruction Manual	\$21.16

**Carrying Cases**

Part No.	Description	GSA Price
710948	Standard Black Plastic Case	\$96.76
10052515	Premium Black Field Case with foam insert	\$67.99
10051539	Long-Term Storage Kit Case with labeled foam insert	\$140.34



**FIVESTAR PERSONAL MULTIPLE GAS ALARM**

See Bulletin o816-o6 for more info.

The FiveStar Alarm provides the flexibility to meet your gas detection needs, yet is incredibly simple to use. The durable, high-impact case makes it long-lasting, while the advanced ergonomic design and software reduce worker load and simplify operation. Over its life, the FiveStar Alarm's ease of use, safety features, and long-term money savings combine to provide the best in gas detection available today.

Gas sensors available—you can order the FiveStar Alarm with sensors to detect:

- Combustible gas (0–100% LEL or 0–5% methane)
- Oxygen (0–25%)
- Carbon monoxide (0–2000 ppm)
- Nitric oxide: (0–100 ppm)
- Hydrogen sulfide (0–500 ppm)
- Nitrogen dioxide (0–100 ppm)
- Sulfur dioxide (0–100 ppm)
- Phosphine (0–5 ppm)

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 131.

Part No.	Description	GSA Price
711296	A-5ST-3210L-1A0-A-2-P-2-2-1-2-2-0-1-0	\$2055.10
711297	A-5ST-2100L-1A0-A-2-P-2-2-1-2-2-0-1-0	\$1907.00
711298	A-5ST-3100L-1A0-A-2-P-2-2-1-2-2-0-1-0	\$1907.00
711299	A-5ST-5210M-1A0-A-2-P-1-6-1-1-0-0-1-0	\$2098.12
711300	A-5ST-2100M-1A0-A-2-C-0-0-1-1-0-0-1-0	\$1581.17
711301	A-5ST-2100L-1A0-A-2-P-2-2-1-2-2-0-4-0	\$1917.51
711419	A-5ST-3210L-1A0-A-0-0-0-0-1-0-2-0-0-0	\$1586.81
10018002	A-5ST-3210L-1A0-A-5-P-2-2-1-1-1-0-1-0	\$2411.96
10018003	A-5ST-2100L-1A0-A-5-P-2-2-1-1-1-0-1-0	\$2263.85
10018004	A-5ST-3100L-1A0-A-5-P-2-2-1-1-1-0-1-0	\$2263.85
10018005	A-5ST-3210L-1A0-A-2-P-2-2-1-1-1-0-1-0	\$2000.09
10018006	A-5ST-2100L-1A0-A-2-P-2-2-1-1-1-0-1-0	\$1851.99
10018007	A-5ST-3100L-1A0-A-2-P-2-2-1-1-1-0-1-0	\$1851.99
10018008	A-5ST-3210L-1A0-A-2-C-0-0-1-0-0-0-0-0	\$1490.19
10018009	A-5ST-2100L-100-A-2-C-0-0-1-0-0-0-0-0	\$1342.09
10018030	A-5ST-3100L-100-A-2-C-0-0-1-0-0-0-0-0	\$1342.09

**REPLACEMENT SENSORS, ACCESSORIES**

Part No.	Description	GSA Price
710317	Combustable Gas (LEL) Sensor	\$148.10
815333	Oxygen Sensor	\$148.10
710656	Carbon Monoxide Sensor	\$148.10
710657	Hydrogen Sulfide Sensor	\$148.10
710427	Standard NiCad Battery Pack	\$148.10
711242	Nylon Carrying Case	\$33.15
710465	Sampling Line, 5-ft Coiled	\$33.15
710662	Nitric Oxide Sensor	\$203.82
710663	Nitrogen Dioxide Sensor	\$203.82
710664	Sulphur Dioxide Sensor	\$203.82
710790	Pump Module	\$292.68
710824	Calibration Adapter	\$37.38
710946	FiveStar Data Link	\$282.10
710959	Aspirator Assembly	\$122.01
710989	Fast Charger	\$136.82
711120	Nylon Carrying Case, Pumped	\$33.15
10008606	Ni-Plated Battery Pack	\$148.10
10008608	Aspirator Assembly, Ni-Plated	\$122.01
10008609	Pump Module, Ni-Plated	\$292.68
10011530	Phosphine Sensor	\$259.53

PORTABLE INSTRUMENTS



**PASSPORT PERSONAL THREE GAS ALARMS**

See Data Sheet o8-00-39 for more info.

MSA's Passport Personal Alarm is the world's top-selling multigas detector. Its durability is field-proven in the toughest industries around the globe. As the first gas detector with simplified three-pushbutton operation, the Passport Alarm set the standard for simplicity, and users typically require less training to operate it.

Capable of monitoring up to five gases simultaneously, the Passport Alarm is equipped with bright, multidirectional alarm lights and a loud alert horn. The display faces the user, allowing hands-free operation when worn on the belt or on a strap around the neck. The Passport Alarm's optional high-efficiency pump is powered by the instrument, which provides audible and visual alerts in the event of flow faults. The pump can be removed to provide diffusion-mode operation. The instrument also records gas exposure readings for up to 12 hours for later retrieval if necessary.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 132.

Part No.	Description	GSA Price
711128	PPT-A-3210L-1-0-0-0-D-2-1-2-1-1-4-4-B	\$2321.68
711129	PPT-A-3210L-0-0-0-0-D-2-1-2-1-1-3-1-B	\$2367.52
711130	PPT-A-2100L-0-0-0-0-D-2-1-2-1-1-3-1-B	\$2219.42
711131	PPT-A-3100L-0-0-0-0-D-2-1-2-1-1-3-1-B	\$2219.42
711403	PPT-A-3210L-0-0-0-0-A-2-P-2-1-1-0-0-B	\$2007.85
711404	PPT-A-3210L-1-1-1-1-A-2-P-2-1-1-0-0-B	\$2007.85
711405	PPT-A-2100L-0-0-0-0-A-2-P-2-1-1-0-0-B	\$1859.74
803892	PPT-A-2100L-0-0-0-0-A-2-P-2-1-1-0-0-0	\$1761.73
803894	PPT-A-3100L-0-0-0-0-A-2-1-2-1-1-0-0-B	\$1876.67
803912	PPT-A-3210L-0-0-0-0-A-2-1-2-1-1-0-0-B	\$2024.77
803913	PPT-A-2100L-0-0-0-0-A-2-1-2-1-1-0-0-B	\$1876.67

**REPLACEMENT SENSORS, ACCESSORIES**

Part No.	Description	GSA Price
478537	Combustable Gas (LEL) Sensor	\$148.10
480566	Oxygen Sensor	\$148.10
636240	Carbon Monoxide Sensor	\$148.10
636241	Hydrogen Sulfide Sensor	\$148.10
806715	Vinyl Carrying Case, Black	\$44.43
812701	Nylon Carrying Case, Orange	\$42.45
800526	Alkaline Battery Pack	\$185.48
495965	Single Unit Charger, 220V	\$52.89
497430	Pump Module	\$296.21
637577	Ammonia Sensor	\$259.53
800972	Sampling Line, 5-ft Teflon	\$50.07
807478	Chlorine Sensor	\$259.53
807495	Gasket Sensor Kit	\$50.61
811719	Inert Pump Module for Chlorine	\$323.64
814105	Integral Pump	\$313.13
711041	Battery Pack	\$199.80
10013145	Battery Pack, NiMH	\$185.48
710955	Replaceable Battery Pack, Black ABS	\$111.43
10008607	Replaceable Battery Pack, Ni-Plated	\$111.43
10008642	Heavy Duty Battery Pack, Black ABS	\$185.48
10018395	Chlorine Compatible Pump	\$333.58



**REMOTE ALARMS**

The Remote Alarm gives added audible alarm capability to many MSA portable gas monitors, including Passport, Passport PID II, Microgard and Watchman instruments. The alarm is for workers wearing hearing protection or to alert standby personnel outside a confined space. Two version are available: 90-decibel where hearing protectors are not worn, and 105-decibel if hearing protectors are worn (dB levels measured at one foot). Operates on 9V alkaline battery.

Part No.	Description	GSA Price
800992	90dB Horn	\$334.97
800991	105dB Horn	\$334.97



**WATCHMAN MULTI-GAS AREA MONITORS**

See Data Sheet o8-o2-39 for more info.

The Watchman Multigas Monitor is a durable, portable instrument used to detect and monitor combustible gases, oxygen, and toxic gases in workplace atmospheres, especially in confined spaces such as manholes, storage tanks, tank cars, vaults, mines, and sewers. Designed for rugged handling, the monitor incorporates the state-of-the-art technology of the Passport Personal Alarm in a strong aluminum housing. The Watchman Monitor is ideal for long jobs in heavy industrial environments, as the instrument will run up to 16 hours on a single charge.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 133.

Part No.	Description	GSA Price
711132	A-WTM-3210L-1-0-0-0-2-2-1-2-0-0-0	\$1855.07
711406	A-WTM-3210L-1-1-1-1-2-2-1-1-0-0-0	\$1833.65
711407	A-WTM-2100L-1-1-1-1-2-2-1-1-0-0-0	\$1685.55
711408	A-WTM-3100L-1-1-1-1-2-2-1-1-0-0-0	\$1685.55
711409	A-WTM-1000L-1-1-1-1-2-2-1-1-0-0-0	\$1537.45

**REPLACEMENT SENSORS, ACCESSORIES**

Part No.	Description	GSA Price
478537	Combustible (LEL) Sensor	\$148.10
480566	Oxygen Sensor	\$148.10
636240	Carbon Monoxide Sensor	\$148.10
636241	Hydrogen Sulfide Sensor	\$148.10
807476	Sulphur Dioxide Sensor	\$259.53
807477	Nitrogen Dioxide Sensor	\$259.53
808350	Nitric Oxide Sensor	\$259.53
495965	Single Unit Charger, 220V	\$52.89
11354	Sampling line, 5 ft	\$17.26
11955	Sampling line, 10 ft	\$26.09
11912	Sampling line, 15 ft	\$30.33
11913	Sampling line, 25 ft	\$41.61
11958	Sampling line, 50 ft	\$74.05
11961	Brass Probe, 3 ft.	\$40.30
804679	Data Docking Module Kit	\$351.92
814127	Heavy Duty Battery Pack	\$136.82

**MICROGARD POCKET SIZE O<sub>2</sub>, LEL PORTABLE ALARM**

See Data Sheet o8-00-40 for more info.

MicroGard Portable Alarms are pocket-sized instruments for simultaneously monitoring combustible gas and oxygen concentrations in workplace atmospheres and confined spaces, such as manholes, storage tanks, tank cars, and shipyards.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 134.

Part No.	Description	GSA Price
711410	A-MGD-1-L-N-1-0-0-0-0-0-0-U-0	\$844.18
711411	A-MGD-1-L-N-1-1-1-2-0-0-0-U-0	\$1222.90
711412	A-MGD-1-L-A-0-0-0-0-0-0-U-0	\$821.62
711413	A-MGD-1-L-A-0-1-1-2-0-0-0-U-0	\$1200.34
711414	A-MGD-1-L-N-1-0-0-0-0-1-0-U-0	\$862.52
711415	A-MGD-1-L-N-1-1-1-2-0-1-0-U-0	\$1241.24
711416	A-MGD-1-L-A-0-0-0-0-0-1-0-U-0	\$839.95
711417	A-MGD-1-L-A-0-1-1-2-0-1-0-U-0	\$1218.67

**REPLACEMENT SENSORS, ACCESSORIES**

Part No.	Description	GSA Price
480566	Oxygen Sensor	\$148.10
478537	Combustible (LEL) Sensor	\$148.10
474407	Wrist Strap	\$9.34
633548	Single Unit Charger, 110V	\$22.57
635628	Single Unit Charger, 220V	\$31.74
478510	Battery Pack, NiCd	\$123.42
482245	Battery Pack, alkaline	\$123.42
497332	Sampling line, 5 ft	\$16.15
497333	Sampling line, 10 ft	\$20.45
497334	Sampling line, 15 ft	\$25.39
497335	Sampling line, 25 ft	\$29.62
497600	Teflon Probe, 1 ft	\$80.75
800332	Probe, 1 ft	\$79.69
800333	Probe, 3 ft	\$88.16
802830	Pump Module	\$278.57
485800	Aspirator	\$69.82



PORTABLE INSTRUMENTS



**ORION® G MULTIGAS AND LEAK DETECTOR**

See Bulletins o816-39 and o816-42 for more info.

**Reliable**

- Fast response time
- Leak sensor at end of flexible wand
- Interchangeable batteries-Nickel metal hydride battery lasts 16 hours. Alkaline battery lasts 8 hours.

**Durable**

- Bar hole probe keeps out water and dust
- Weather & dust-resistant design with an IP54 rating stands up to the environment

**Easy-to-use**

- Multi-functional unit displays all 4 gases at once
- Ergonomically correct to fit well in hand
- Provides peak readings

**Calibration Records a Snap!**

- Optimal automated calibration system ensures safe operation and reduced technical training

**Orion G Multigas and Leak Detector Kits for Gas Utility Applications**

		Combustible Gas	O <sub>2</sub>	CO	H <sub>2</sub> S	Alkaline Battery	NIMH Battery	Vehicle Battery + Charger	Quick Connection	Threaded Connection	10 ft. Sampling Line	Bar Hole Probe	Black Boot	Yellow Jacket	Calibration Kit	Data Logging	Carrying Case	GSA Price
DELUXE	4-gas	10041504	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$2,167.23
	3-gas, H <sub>2</sub> S	10041505	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$2,026.18
	3-gas, CO	10041506	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$2,026.18
STANDARD	4-gas	10041507	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,428.84
	3-gas, H <sub>2</sub> S	10041508	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,287.79
	3-gas, CO	10041509	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,287.79
ECONOMY	4-gas	10041510	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,308.94
	3-gas, H <sub>2</sub> S	10041511	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,167.89
	3-gas, CO	10041512	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,167.89
SUPER ECONOMY	4-gas	10041513	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,134.04
	3-gas, H <sub>2</sub> S	10041514	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$992.09
	3-gas, CO	10041515	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$992.09

**Orion G Multigas and Leak Detector Fire Service Kits**

		Combustible Gas	O <sub>2</sub>	CO	H <sub>2</sub> S	Alkaline Battery	NIMH Battery	Vehicle Battery + Charger	Quick Connection	Threaded Connection	5 ft. Sampling Line	1 ft. Sampling Line	Red Boot	Yellow Jacket	Calibration Kit	Data Logging	Carrying Case	GSA Price
DELUXE	F.S. 4-gas	10041472	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$2,072.73
	F.S. 3-gas, H <sub>2</sub> S	10041473	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,931.68
	F.S. 3-gas, CO	10041474	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,931.68
STANDARD	F.S. 4-gas	10041475	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,366.77
	F.S. 3-gas, H <sub>2</sub> S	10041476	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,225.72
	F.S. 3-gas, CO	10041477	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,225.72
ECONOMY	F.S. 4-gas	10041478	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,246.88
	F.S. 3-gas, H <sub>2</sub> S	10041479	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,105.83
	F.S. 3-gas, CO	10041500	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,105.83
SUPER ECONOMY	F.S. 4-gas	10041501	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$1,134.04
	F.S. 3-gas, H <sub>2</sub> S	10041502	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$992.99
	F.S. 3-gas, CO	10041503	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	\$992.99

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To configure your own instrument, go to the ATO order system guide on page 135.

**ORION G MULTIGAS DETECTOR**

Part No.	Description	GSA Price
10048288	A-ORION G-2111-A1B2-10R1-130	\$2,072.73
10048289	A-ORION G-2101-A1B2-10R1-130	\$1,931.68
10048290	A-ORION G-2110-A1B2-10R1-130	\$1,931.68
10048321	A-ORION G-2111-B0B2-10D0-000	\$1,366.77
10048322	A-ORION G-2101-B0B2-10D0-000	\$1,225.72
10048323	A-ORION G-2111-B0B2-10D1-000	\$1,225.72
10048324	A-ORION G-2111-B0A2-1000-000	\$1,246.88
10048325	A-ORION G-2101-B0A2-1000-000	\$1,105.83
10048326	A-ORION G-2110-B0A2-1000-000	\$1,105.83
10048327	A-ORION G-2111-B0A0-0000-000	\$1,134.04
10048328	A-ORION G-2101-B0A0-0000-000	\$992.99
10048329	A-ORION G-3110-B0A0-0000-000	\$992.99
10048330	A-ORION G-3111-A1B3-30D1-110	\$2,167.23
10048331	A-ORION G-3101-A1B3-30D1-110	\$2,026.18
10048332	A-ORION G-3110-A1B3-30D1-110	\$2,026.18
10048333	A-ORION G-3111-B0B3-30D0-000	\$1,428.84
10048334	A-ORION G-3101-B0B3-30D0-000	\$1,287.79
10048335	A-ORION G-3110-B0B3-30D0-000	\$1,287.79
10048336	A-ORION G-3111-B0A3-3000-000	\$1,308.94
10048337	A-ORION G-3101-B0A3-3000-000	\$1,167.89
10048338	A-ORION G-3110-B0A3-3000-000	\$1,167.89
10048339	A-ORION G-3111-B0A0-0000-000	\$1,134.04
10048340	A-ORION G-3101-B0A0-0000-000	\$992.99
10048341	A-ORION G-3110-B0A0-0000-000	\$992.99

**ORION G ACCESSORIES**

Part No.	Description	GSA Price
10031092	Alkaline Battery Pack	\$133.29
10031910	Battery Pack Jack Cover	\$7.05
10042020	Alkaline Battery Pack with thumbscrew attachment	\$162.21
10040791	Gas Cylinder, 58 liters (LEL, O <sub>2</sub> , CO)	\$105.79
10018118	Sample Line, 3-ft coiled, threaded	\$29.62
10040667	Sample Line, 3-ft coiled, airline	\$42.32
10040662	Sample Line, 5-ft coiled, airline	\$38.94
10040665	Sample Line, 10-ft, airline	\$24.23
10040663	Sample Line, 15-ft, airline	\$29.42
10040664	Sample Line, 25 ft, airline	\$34.62
10040666	Bar Hole Line, 5 ft, airline	\$42.32
10042621	Probe, 1-ft	\$90.27
10042622	Probe, 3-ft	\$98.03
10038910	Probe, 3-ft Bar Hole	\$148.09
10040572	Probe, 3-ft Bar Hole	\$154.45
10040573	Hot Gas Probe	\$116.37
10040784	Leak Sensor (external)	\$79.21
10040586	Yellow Cordura Jacket	\$34.56



**ORION MULTIGAS DETECTOR**

See Bulletin o816-27 for more info.

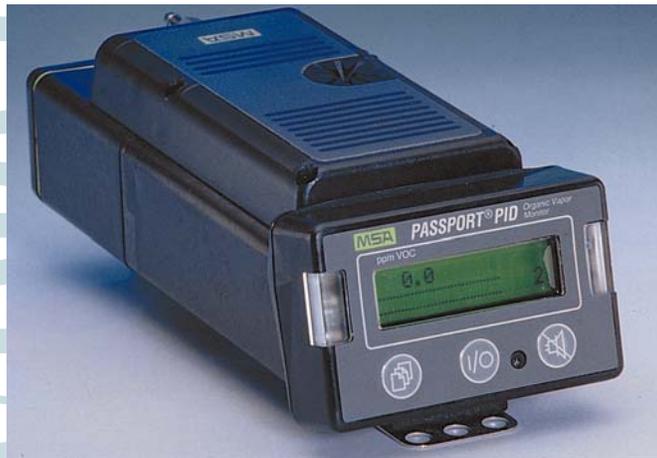
The Orion Multigas Detector is a low-cost, reliable and easy-to-use portable instrument for detecting the presence of oxygen, hydrogen sulfide, carbon monoxide and combustible gas. It is suitable for various industrial applications including applications within the agricultural, chemical, fire service, utility, telecommunications, hazardous materials, oil/gas and construction markets. It will stand up to the roughest handling in even the toughest environments. A charger and optional built-in sampling pump are included in the price.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easier to order MSA Instruments that are custom assembled to meet your specific needs. Part numbers shown below have been assigned to frequently ordered configurations. To interpret configurations or to configure your own instrument, go to the ATO order system guide on page 136.

Part No.	Description	GSA Price
10025932	A-ORION-1-1-1-1-A-0-P-3-1-0-C-1-0-1	\$1586.81
10025935	A-ORION-1-1-0-1-A-0-P-3-1-0-C-1-0-1	\$1466.92
10025938	A-ORION-1-1-1-1-0-A-0-P-3-1-0-C-1-0-1	\$1466.92
10025931	A-ORION-1-1-1-1-A-0-P-3-1-0-C-0-0-0	\$1205.98
10025934	A-ORION-1-1-0-1-A-0-P-3-1-0-C-0-0-0	\$1086.09
10025937	A-ORION-1-1-1-0-A-0-P-3-1-0-C-0-0-0	\$1086.09
10025930	A-ORION-1-1-1-1-B-0-A-0-0-0-0-0-0-0	\$881.56
10025933	A-ORION-1-1-0-1-B-0-A-0-0-0-0-0-0-0	\$761.67
10025936	A-ORION-1-1-1-0-B-0-A-0-0-0-0-0-0-0	\$761.67

**REPLACEMENT SENSORS, ACCESSORIES**

Part No.	Description	GSA Price
711306	Carbon Monoxide Sensor	\$141.05
711307	Hydrogen Sulfide Sensor	\$141.05
10024247	Combustible Gas (LEL) Sensor	\$134.00
10025940	Oxygen Sensor	\$126.95
477149	Calibration Kit, Model RP, less gas	\$148.10
710288	Gas Miser Demand Regulator	\$179.84
804770	Gas Cylinder, 58 liters (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)	\$197.47
804769	Gas Cylinder, 58 liters (LEL, O <sub>2</sub> , H <sub>2</sub> S)	\$197.47
710465	Sample Line, 5-ft coiled	\$33.15
497333	Sample Line, 10-ft	\$20.45
497334	Sample Line, 15-ft	\$25.39
497335	Sample Line, 25 ft	\$29.62
800332	Probe, 1-ft	\$79.69
800333	Probe, 3-ft	\$88.16
10020485	Black Leather Protective Jacket	\$59.95
10020486	Cordura Case	\$31.74
10031091	NiMH Battery Pack Assembly	\$170.07
10031092	Alkaline Battery Pack Assembly	\$133.29
10020551	Universal Input Switching Charger, 1.5 amp	\$97.32



**PASSPORT PID (PHOTO IONIZATION DETECTOR) II ORGANIC VAPOR MONITORS**

See Data Sheet o8-01-39 for more info.

The Passport PID II Organic Vapor Monitor is a convenient, portable instrument for detecting low concentrations of volatile organic compounds (VOCs). The Passport PID II Monitor's compact design supports a variety of monitoring applications. Used primarily in connection with hazardous materials spills, soil remediation, and underground tank leakage, the Passport PID II Monitor can also be used for emissions monitoring and general leak detection.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easy to order MSA Instruments that are custom assembled to meet your specific needs. To configure your own instrument, go to the ATO order system guide on page 137.

**ACCESSORIES**

Part No.	Description	GSA Price
495965	Single Unit Charger, 220V	\$52.89
800526	Alkaline Battery Pack	\$185.48

**PASSPORT VOC 2000 ORGANIC VAPOR, O<sub>2</sub> MONITOR**

See Bulletin o816-19 for more info.

The Passport VOC 2000 Organic Vapor and Oxygen Monitor is a convenient, portable instrument for detecting low concentrations of volatile organic compounds (VOCs) such as jet fuels, MEK benzene, toluene, and also oxygen levels.

**NOTE:** MSA Instruments are Assemble-To-Order (ATO). The ATO System makes it easy to order MSA Instruments that are custom assembled to meet your specific needs. To configure your own instrument, go to the ATO order system guide on page 138.

**REPLACEMENT PARTS, ACCESSORIES**

Part No.	Description	GSA Price
710403	Pistol Grip	\$63.34
710911	O2 Sensor	\$129.99
800332	Sample Probe, 1 ft	\$79.69
800333	Sample Probe, 3 ft	\$88.16
800527	Heavy-Duty NiCad Pack	\$185.48
802806	Boot, Orange	\$59.24
804955	Boot, Black	\$59.24
811187	10-ft Teflon Sampling Line	\$76.87
813410	Sample Probe, 8 in	\$18.67
710570	NiMH Fast Charger Stand	\$70.53
10018394	NiMH Fast Charger	\$222.15
800526	Battery Pack, Alkaline	\$185.48





**TIM (TOTAL INSTRUMENT MANAGER) SYSTEM**

See Bulletin o818-o2-MC for more info.

The TIM System is designed to calibrate up to four instruments at the same time—with only one computer and four TIM Control Centers. After an instrument has been bump-tested or calibrated, the TIM System immediately displays and prints the results of the bump test or calibration. The TIM System allows password identification, and it electronically stores all records in a user-friendly archive with both view and print capability. It is designed to operate on a standard IBM-compatible personal computer.

**TIM SYSTEM KITS**

All TIM System Kits include: TIM Control Center, Software Diskettes, Fresh Air Inlet Filter, Instruction Manual, 6 ft. Tubing, and Warranty Card.

Part No.	Description	GSA Price
10010742	with Gas Miser Model RP Regulator	\$3684.93
10010152	with Data Docking Module, Watchman Module Bracket and Gas Miser Model RP Regulator	\$4058.01
10010153	with Data Docking Module, Watchman Module Bracket and Gas Miser Model BD Regulator	\$4082.69
10010154	with Gas Miser Model RP Regulator and Integral Pump Holster Assembly	\$4041.08
10010155	with Gas Miser Model BD Regulator and Integral Pump Holster Assembly	\$4065.77
10010156	with Gas Miser Model RP Regulator and Add-On Pump Module Holster Assembly	\$4058.71
10010157	with Gas Miser Model BD Regulator and Add-On Pump Module Holster Assembly	\$4083.40
10010158	with Gas Miser Model RP Regulator and FiveStar Holster Assembly	\$4041.08
10010150	with Gas Miser Model BD Regulator and FiveStar Holster Assembly	\$4065.77

**ACCESSORIES**

Part No.	Description	GSA Price
710658	Holster Assembly for use with Passport integral pump and Gasport-style instruments. Includes built-in data docking module and gas fee connection. Just load and press “run” on TCC to calibrate.	\$334.99

Part No.	Description	GSA Price
711391	Holster Assembly for use with Passport add-on pump. Includes built-in data module and gas feed connection. Just load and press “run” on TCC to calibrate.	\$352.63
10010164	Holster Assembly for use with FiveStar. Includes jet eye infrared communication module and gas feed connection. Just load and press “run” on TCC to calibrate.	\$334.99
10006711	Module Bracket for use with Watchman instruments	\$41.88
10010168	A/B Switchbox (6” x 6” x 2-1/2”) Connect two holster assembly or data docking modules for use with one TCC-TIM Control Center. Shipped complete with inter-connecting cable and dual feed flow system. Switch allows usage with either connected holster/module assembly. Only one instrument can be calibrated at a time.	\$213.20



**VENTILATION SMOKE TUBE KITS**

See Data Sheet o8-00-20 for more info.

MSA Ventilation Smoke Tube Kits are for use where controlled generation of a visible smoke is desired in order to determine the velocity, direction and flow patterns of slow-moving air currents in shafts, mines and tunnels. They can also be used in commercial buildings and industrial processing plants to determine the velocity and flow patterns of heating, ventilating and air-conditioning systems.

Part No.	Description	GSA Price
458481	MSA Ventilation Smoke Tube Kit, including aspirator bulb, two rubber plugs, and six plastic smoke tubes contained in a plastic carrying case	\$70.91
5607	MSA Ventilation Smoke Tube Kit, including aspirator bulb, six tube caps, and two glass smoke-producing tubes contained in a plastic carrying case	\$26.63
458480	Plastic Smoke Tubes, pkg. of 12	\$76.93
5645	Glass Smoke Tubes, pkg. of 12	\$53.32

**CALIBRATION KITS, KIT PARTS and CALIBRATION GASES**

See data sheet o8-oo-28 for more info.

These various gases listed below are used to calibrate the above equipment.

**COMPLETE KITS**

Part No.	Description	GSA Price
476609	Calibration Kit, Model R with 1.5 lpm regulator	\$146.34
476610	Calibration Kit, Model R with .25 lpm regulator	\$157.91
477150	Calibration Kit, Model RP with 1.5 lpm regulator	\$148.10

**CALIBRATION REGULATORS**

Part No.	Description	GSA Price
459948	Flow Control, 1.5 lpm	\$102.33
459949	Flow Control, .25 lpm	\$102.33
467895	Flow Control, 1000 psi, .25 lpm	\$100.85
467896	Flow Control, 1000 psi, 1.5 lpm	\$100.85
710288	Multiflow Regulator, RP Cylinder	\$179.84
710289	Multiflow Regulator, BD-20 Cylinder	\$204.57
697344	Regulator, 0-2 liter/min	\$197.47

**CALIBRATION GAS CYLINDERS**

**Aluminum, 58 Liters, 500 psig, shelf life** **Hazardous**  
**Background—Air**

Part No.	Gas Fill	Gas Mixture	GSA Price
808977	Dioxide	10 ppm nitrogen dioxide	\$197.47
812144	Nitric Oxide	50 ppm nitric oxide	\$197.47
808978	Sulfur Dioxide	10 ppm sulfur dioxide	\$105.79
814866	Ammonia	25 ppm ammonia	\$253.89

**Aluminum, 58 Liters, 500 psig, shelf life** **Hazardous**  
**Background—Nitrogen**

Part No.	Gas Fill	Gas Mixture	GSA Price
467897	Hydrogen	40 ppm hydrogen sulfide	\$105.79
806253	Sulfide	15 ppm hydrogen sulfide	\$105.79
806740	Chlorine	10 ppm chlorine	\$253.89
710533	Phosphine	0.5 ppm phosphine	\$282.10
804769	Combination Gas Cylinder	1.45% methane, 15% oxygen, 10 ppm hydrogen sulfide	\$197.47
804770	Combination Gas Cylinder	300 ppm carbon monoxide, 1.45% methane, 15% oxygen, 10 ppm hydrogen sulfide	\$197.47
813720	Combination Gas Cylinder	2.5% methane, 300 ppm carbon monoxide, 15% oxygen, 10 ppm hydrogen sulfide	\$197.47



**CALIBRATION GAS CYLINDERS**

**Aluminum, 34 Liters, 500 psig, shelf life** **Hazardous**  
**Background—Air**

Part No.	Gas Fill	Gas Mixture	GSA Price
711068	Nitrogen Dioxide	10 ppm nitrogen dioxide	\$119.89
711074	Nitric Oxide	50 ppm nitric oxide	\$119.89
711078	Ammonia	25 ppm ammonia	\$158.68

**Aluminum, 34 Liters, 500 psig, shelf life** **Hazardous**  
**Background—Nitrogen**

Part No.	Gas Fill	Gas Mixture	GSA Price
711066	Chlorine	10 ppm chlorine	\$158.68
711074	Hydrogen Sulfide	15 ppm hydrogen sulfide	\$119.89

**Aluminum, 58 Liters, 500 psig, shelf life** **Hazardous**  
**Background—Nitrogen**

Part No.	Gas Fill	Gas Mixture	GSA Price
711060	Hydrogen	10 ppm hydrogen sulfide	\$77.58
711062	Sulfide	40 ppm hydrogen sulfide	\$77.58
711088	Phosphine	0.5 ppm phosphine	\$172.79
711056	Combination Gas Cylinder	1.45% methane, 15% oxygen, 10 ppm hydrogen sulfide	\$119.89
711058	Combination Gas Cylinder	300 ppm carbon monoxide, 1.45% methane, 15% oxygen, 10 ppm hydrogen sulfide	\$126.95
711076	Combination Gas Cylinder	2.5% methane, 300 ppm carbon monoxide, 15% oxygen, 10 ppm hydrogen sulfide	\$126.95

**Steel, 100 Liters, 1000 psig, no shelf life** **Hazardous**  
**Background—Air** (Note: P/N 801050—Air—has no background)

Part No.	Gas Fill	Gas Mixture	GSA Price
473180	Carbon	300 ppm carbon monoxide	\$105.79
809243	Monoxide	200 ppm carbon monoxide	\$105.79
809242		100 ppm carbon monoxide	\$105.79
809241		50 ppm carbon monoxide	\$105.79
491041	Methane	2.5% methane	\$105.79
494450	Isobutylene	100 ppm isobutylene	\$105.79
801050	Air	air zero (THC < 1 ppm)	\$105.79
803102	Hydrogen	0.8% hydrogen	\$105.79

**CALIBRATION GAS CYLINDERS**

Steel, 100 Liters, 1000 psig, no shelf life **Hazardous**  
Background—Nitrogen

Part No.	Gas Fill	Gas Mixture	GSA Price
479857	Oxygen	20.8% oxygen	\$105.79
801051	Combination	0.35% pentane, 19.0% oxygen, 100 ppm carbon monoxide	\$105.79
813718	Combination	2.5% methane, 60 ppm carbon monoxide, 15% oxygen	\$105.79

Steel, 58 Liters, 1000 psig, no shelf life **Hazardous**

Part No.	Gas Fill	Gas Mixture	GSA Price
711014	Methane	100% methane	\$105.79

Squirt Gas Aerosol Can, 11 Liters, 155 psig, no shelf life **Hazardous**  
Balance—Air

Part No.	Gas Fill	Gas Mixture	GSA Price
815307	Explosimeter	2.5% methane, pentane simulant	\$25.39
814978	MiniCO Responder**, Cricket	60 ppm carbon monoxide	\$25.39
815704	Passport PID II	100 ppm isobutylene	\$31.03

Squirt Gas Aerosol Can, 11 Liters, 155 psig, no shelf life **Hazardous**  
Balance—Nitrogen

Part No.	Gas Fill	Gas Mixture	GSA Price
814350	Gasport	2.5% methane, 15% oxygen, 60 ppm carbon monoxide	\$25.39
814497	FiveStar	1.3% methane, 52% LEL, 15% oxygen, 60 ppm carbon monoxide	\$25.39
815308	Microgard**	1.3% methane, 52% LEL, 15% oxygen	\$25.39

**SQUIRT GAS BUMP TEST KIT**

Part No.	Description	GSA Price
813411	Squirt Gas Bump Test Kit, less cylinder, with required fittings, complete with instructions	\$38.72

Squirt Gas Aerosol Can, 11 Liters, 155 psig, shelf life: 14 weeks **Hazardous**  
Balance—Nitrogen

Part No.	Gas Fill	Gas Mixture	GSA Price
814349	Gasport	2.5% methane, 15% oxygen, 300 ppm carbon monoxide, 35 ppm hydrogen sulfide	\$38.08
814559	FiveStar	1.3% methane, 52% LEL, 15% oxygen, 300 ppm carbon monoxide, 35 ppm hydrogen sulfide	\$38.08

Squirt Gas Aerosol Can, 4 Liters, 120 psig, no shelf life **Hazardous**

Part No.	Gas Mixture	GSA Price
96329	2.1% methane	\$21.16
455129	0.6% propane	\$21.16
455130		\$21.16

\*\* Requires calibration adapter.

**CALIBRATION ACCESSORIES**

Part No.	Description	GSA Price
710274	4-Station Gas Miser Manifold	\$84.63
710386	Calibration Gas Holder, single cylinder	\$32.30
710483	Calibration Gas Holder, double cylinder	\$39.78
81696	BALLONS 3 PKG CO	\$5.50
81748	Bladder Coupler	\$3.10
454315	Gasket Adapter	\$0.49
814033	Bump Tester Bag	\$17.63
814107	Calibration Tubing	\$15.51



**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.

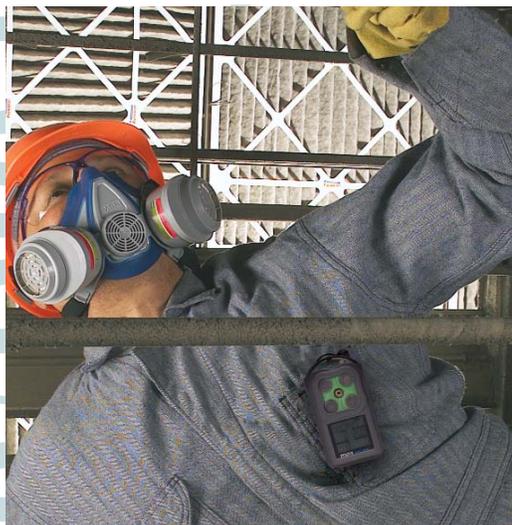
The MSA Recycling Center limits the return of calibration cylinders to MSA-logoed cylinders only. Non-MSA cylinders will be rejected. Contact the Customer Service Center for additional details at 1-800-MSA-2222.

**Calibration Gas Recycling Tools**

See Bulletin 0818-04 MC for more info.

Part No.	Description	GSA Price
711228	Devalving Tool, Model RP Cylinders	\$52.89
711228	Devalving Tool, Model R Cylinders	\$52.89
711227	Shipping Box, Special, Pre-Addressed	\$3.03





Solaris Multigas Monitor



Watchman Multigas Monitor



Passport VOC 2000 Monitor

## PORTABLE INSTRUMENTS ASSEMBLE-TO-ORDER (ATO) SYSTEM

- Escort Series Personal Sampling Pumps .....page 127
- Pulsar Single Gas Detector .....page 128
- Solaris Multigas Detector .....page 129
- Sirius Multigas Detector .....page 130
- FiveStar Multigas Alarm .....page 131
- Passport Three-Gas Alarm .....page 132
- Watchman Multigas Area Monitors .....page 133
- Microgard Portable Alarm .....page 134
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- Orion Multigas Detector .....page 136
- Passport PID II OV Monitor .....page 137
- Passport VOC 2000 Monitor .....page 138

### The Assemble-to-Order (ATO) System

The ATO system is easy to use, allowing you to order the right configuration to fit your needs. As shown in the following pages, the ATO system allows the user to “build” their own instrument by creating their own part number. Each character of an ATO part number represents a specific component, so that the entire number describes the finished instrument built exactly to your own specifications.

Note: A number or letter must be selected for each category. The ATO system is only used to order complete instruments. Spare parts, additional components, etc., must be ordered by specific part number.

## Escort® ELF & Escort® LC Sampling Pumps Assemble-to-Order (ATO) Options

- To select your instrument configuration, select instrument options and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right, add up the total and write it in the "Total Unit Price" box below.

**A. Number of Pumps**



It's your choice: You can order one pump at a time, or the convenient "5-Pump Kit," which includes a durable PVC carrying case and bonus training video. NOTE: When you order the 5-Pump Kit through this ATO Ordering Selection Matrix, any accessories (such as single-unit chargers, Gemini Twin-Port Samplers, cyclones or instrument jackets) you order will also be provided in five-packs.

Number of Pumps	Code	1-Pump Price	5-Pump Price	Selection	Price
One	1	\$0.00		<input type="checkbox"/>	\$ 0.00
Five	5		\$0.00	<input type="checkbox"/>	

**B. Pump Type**



No matter whether you choose the Single-Pump Option or the 5-Pump Kit Option in Section A, you have a choice of three different types of pumps:

- The Escort ELF Pump with 90-second Flow-Fault Indicator. In the event that a flow blockage occurs, the Flow-Fault Indicator circuitry illuminates an LED to alert the user. Within 90 seconds, the pump automatically shuts off, but the cumulative elapsed time remains on the display. To select this option, write "ELF1" in the box at right.
- The Escort ELF Pump without Flow-Fault Indicator. To select this option, write "ELF2" in the box at right.
- The Escort LC Pump. To select this option, mark "ESLC" at right.

Pump Type	Code	1-Pump Price	5-Pump Price	Selection	Price
Escort ELF Pump with 90-second Flow-Fault Indicator	ELF1	\$492.93	\$2,464.67	<input type="checkbox"/>	
Escort ELF Pump without 90-second Flow-Fault Indicator	ELF2	\$492.93	\$2,464.67	<input type="checkbox"/>	
Escort LC Pump	ESLC	\$302.53	\$1,512.65	<input type="checkbox"/>	

**C. Battery Chargers**



Which type of battery charger do you want? Select from the following choices and mark your selection in the box at right (all operate from 50/60 Hz):

- "0" for no battery charger
- "1" for 120-Volt charger
- "2" for 220-Volt charger
- "5" for the 5-Unit charger

Battery Chargers	Code	1-Pump Price	5-Pump Price	Selection	Price
No battery charger	0	\$0.00	\$0.00	<input type="checkbox"/>	
120-Volt charger 50/60 Hz	1	\$45.84	\$204.51	<input type="checkbox"/>	
220-Volt charger 50/60 Hz	2	\$52.89	\$246.82	<input type="checkbox"/>	
5-Unit charger 120/240 V, 50/60 Hz	5	\$320.87	\$292.66	<input type="checkbox"/>	

**D. Sampling Accessories**



Sampling Accessories include the following:

- Sample Line
- 10 mm Cyclone Assembly, which separates respirable dust particles from non-respirable particles
- The Gemini® Twin-Port Sampler, which streamlines sampling with sorbent tubes by enabling collection of two or more samples simultaneously from a single sampling pump.

Sampling Accessories	Code	1-Pump Price	5-Pump Price	Selection	Price
Sample Line only	1	\$12.91	\$64.53	<input type="checkbox"/>	
*10 mm Cyclone Assembly (456243)	2	\$123.41	\$617.05	<input type="checkbox"/>	
Gemini Twin-Port Sampler	3	\$140.33	\$701.67	<input type="checkbox"/>	
No Sampling Line	4	\$0.00	\$0.00	<input type="checkbox"/>	
*10 mm Cyclone Assembly IH (10044015)	5	\$130.46	\$652.31	<input type="checkbox"/>	

**E. Protective Jackets**



A protective leather jacket is offered as an option to protect the instrument from everyday wear, tear and scuff marks. To select the jacket, mark "1" in the box at right.

Protective Leather Jacket	Code	1-Pump Price	5-Pump Price	Selection	Price
None	0	\$0.00	\$0.00	<input type="checkbox"/>	
Protective Leather Jacket for Sampling Pump	1	\$34.55	\$172.77	<input type="checkbox"/>	

**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

A-PMP-  -  -  -  -

Total Unit Price = \$

All Pricing is in US Dollars

\*Cyclone Assemblies  
456243 is for use with MSA Pre-Weighed Cassettes (MSHA)  
10044015 is for use with Non-MSA Cassettes

42 CFR Oil-Mist Sampling Kits



*Escort ELF Kit*



*Escort LC Kit*

The National Institute for Occupational Safety and Health (NIOSH) respirator certification standard, 42 CFR Part 84, introduces new ways to select non-powered air-purifying particulate filter respirators. One of the primary concerns of the standard is oil-mist exposure. According to this NIOSH Standard, there are 3 levels of respiratory protection:

N = Not resistant to oil  
R = Resistant to oil  
P = Oil-Proof

**But how do we know whether oil mist is present in the workplace?**

MSA's 42 CFR Sampling Pump Kits can help you answer this question by providing convenience and flexibility in oil-mist sampling. See ordering information on the back page.

**Net Discount  
29.48% Off List**

**Pulsar® Single Gas Detector Assemble-to-Order (ATO) Options**

- To select your instrument configuration, select the instrument options and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right, add up the total and write it in the "Total Unit Price" box below.

**1. Instrument Type**



Code	Instrument Type	Price	Selection	Price
1	CO without vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>
2	CO with vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>
3	H <sub>2</sub> S without vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>
4	H <sub>2</sub> S with vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>
5	O <sub>2</sub> without vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>
6	O <sub>2</sub> with vibrating alarm	\$175.59	<input type="checkbox"/>	<input type="text"/>

**2. Alarm Setpoints**

Code	Alarm Setpoints	Selection	Price
A	CO 25 ppm & 100 ppm	<input type="checkbox"/>	\$ 0.00
B	CO 30 ppm & 60 ppm	<input type="checkbox"/>	
C	CO 35 ppm & 100 ppm	<input type="checkbox"/>	
D	CO 35 ppm & 400 ppm	<input type="checkbox"/>	
E	CO 50 ppm & 200 ppm	<input type="checkbox"/>	
F	CO 100 ppm & 300 ppm	<input type="checkbox"/>	
G	CO 150 ppm & 200 ppm	<input type="checkbox"/>	
L	H <sub>2</sub> S 10 ppm & 15 ppm	<input type="checkbox"/>	\$ 0.00
M	H <sub>2</sub> S 10 ppm & 20 ppm	<input type="checkbox"/>	
N	H <sub>2</sub> S 10 ppm & 25 ppm	<input type="checkbox"/>	
O	H <sub>2</sub> S 15 ppm & 25 ppm	<input type="checkbox"/>	
W	O <sub>2</sub> 19.5% & 18.0%	<input type="checkbox"/>	\$ 0.00
X	O <sub>2</sub> 22.5% & 19.5%	<input type="checkbox"/>	

**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 ...      1      2

A-PULSAR-  -

**Net Discount**  
29.48% Off List

**Total Unit Price =** \$

**All Pricing is in US Dollars**

## Solaris® Multigas Detector Assemble-to-Order (ATO) Options

- To create your instrument configuration, select the instrument option code and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right, add up the total and write it in the "Total Unit Price" box below.

<b>A.</b> Datalog Options	The datalog option enables the Solaris Multigas Detector to store exposure data for easy retrieval at a later time. To download the Solaris data the MSA datalog kit (p/n 710946) must also be purchased.	<b>Datalog Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		Standard Instrument	S	\$330.74	<input type="checkbox"/>	<input type="text"/>
		Datalogging option selected	D	\$400.55	<input type="checkbox"/>	\$ <input type="text"/>
<b>B.</b> Combustible Sensor Options	If a combustible gas sensor is desired, two options are available: 0-100% LEL or 0-5% CH <sub>4</sub> .	<b>Combustible Sensor Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		0-100% LEL	L	\$49.36	<input type="checkbox"/>	\$ <input type="text"/>
		0-5% CH <sub>4</sub>	M	\$49.36	<input type="checkbox"/>	<input type="text"/>
<b>C.</b> Oxygen Sensor Options	To choose to have an oxygen sensor installed in your new Solaris Multigas Detector, choose selection 1. For no oxygen sensor, enter a "0".	<b>Oxygen Sensor Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		O <sub>2</sub> Sensor	1	\$49.36	<input type="checkbox"/>	\$ <input type="text"/>
<b>D.</b> Carbon Monoxide Sensor Options	To choose to have a carbon monoxide sensor installed in your new Solaris Multigas Detector, choose selection 1. For no carbon monoxide sensor, enter a "0".	<b>Toxic Sensor 1 Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		CO Sensor	1	\$49.36	<input type="checkbox"/>	\$ <input type="text"/>
<b>E.</b> Hydrogen Sulfide Sensor Options	To choose to have a hydrogen sulfide sensor installed in your new Solaris Multigas Detector, choose selection 1. For no hydrogen sulfide sensor, enter a "0".	<b>Toxic Sensor 2 Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None (H <sub>2</sub> S Sensor not installed)	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		H <sub>2</sub> S Sensor	1	\$49.36	<input type="checkbox"/>	\$ <input type="text"/>
<b>F.</b> Battery Charging Options	A Solaris-specific battery charger must be used to recharge the batteries in the Solaris unit. Global battery charger comes with several international plug outlet configurations for countries outside of North America.	<b>Battery Charging Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		North American outlet-compatible	N	\$35.26	<input type="checkbox"/>	\$ <input type="text"/>
		Global outlet-compatible	G	\$42.31	<input type="checkbox"/>	<input type="text"/>
<b>G.</b> Instrument Approvals	It is now possible to select the specific type of approval that a Solaris instrument possesses. Default approval for North America will be granted by Underwriters Laboratory (UL). MSHA approval is needed for mining applications that are specifically regulated by MSHA procedures. The Solaris UL approval is recommended for the United States and Mexico. The Solaris CSA approval label is recommended for Canada.	<b>Instrument Approvals</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		Underwriters Laboratory (UL)	U	\$0.00	<input type="checkbox"/>	<input type="text"/>
		Mine Safety & Health Adm (MSHA)	M	\$0.00	<input type="checkbox"/>	\$ <input type="text"/>
		CSA	C	\$0.00	<input type="checkbox"/>	<input type="text"/>
<b>H.</b> Sampling Pump	It is now possible to combine the sampling pump and probe for the Solaris unit into one easy-to-use accessory. The pump probe is very versatile and can be attached to the Solaris instrument in seconds. The built-in Water Stop filter helps to ensure the sampling system is not contaminated with dirt and debris during use.	<b>Sampling Pump</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		Universal pump probe	1	\$232.01	<input type="checkbox"/>	\$ <input type="text"/>
<b>I.</b> Calibration Kits	MSA provides two options for performing instrument calibration. The cost-effective Econo-Cal (34 liter) cylinder and fixed flow regulator provides an economical means to calibrate the Solaris instrument. The Model RP calibration kit also has a fixed flow 0.25 lpm regulator and provides the user with a larger capacity (58 liter) calibration gas cylinder.	<b>Calibration Kit Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
		None	0	\$0.00	<input type="checkbox"/>	<input type="text"/>
		Econo-Cal Calibration Kit	1	\$211.56	<input type="checkbox"/>	\$ <input type="text"/>
		Model RP Calibration Kit	2	\$282.08	<input type="checkbox"/>	<input type="text"/>

**Your Model Part Number** Please write in numbers from selections above in appropriate boxes and contact your Safety Products Distributor to place your order.

Selection ... **A** **B** **C** **D** **E** **F** **G** **H** **I**

A-SOLARIS-  -  -  -  -  -  -  -  -  -

Total Unit Price = \$

All Pricing is in US Dollars

Net Discount  
29.48% Off List

**Sirius™ Multigas Detector (Fire Service) Assemble-to-Order (ATO) Options**

- To generate your instrument configuration, select instrument options and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right and add to the base price of \$1,445.66 below.

<b>A. Photoionization Detector Lamp Option</b>		To choose the standard 10.6 eV lamp for most VOCs, choose selection A. For the low energy 9.8 eV lamp with the most VOC discrimination, enter selection B.	<b>PID Lamp</b> None 0 \$0.00 PID with 10.6 eV Lamp (0-2000 ppm) A \$176.30 PID with 9.8 eV Lamp B \$211.56	<b>Code</b> 0 A B	<b>Price</b> \$0.00 \$176.30 \$211.56	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>B. Combustible Sensor Option</b>		To choose to have your MSA 20L combustible sensor reading set to be displayed as 0-100% LEL, enter selection "L". For a display of 0-5% methane, enter an "M".	<b>Combustible Sensor</b> None 0 \$0.00 0-100% LEL L \$126.94 0-5% Methane M \$126.94	<b>Code</b> 0 L M	<b>Price</b> \$0.00 \$126.94 \$126.94	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>C. Oxygen Sensor Options</b>		To choose to have an oxygen sensor installed in your new Sirius Multigas Detector, enter selection 1. For no oxygen sensor, enter a "0".	<b>Oxygen Sensor</b> None 0 \$0.00 Oxygen (0-25%) 1 \$119.88	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$119.88	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>D. Carbon Monoxide Sensor Option</b>		To choose to have a carbon monoxide sensor installed in your new Sirius Multigas Detector, enter selection 1. For no carbon monoxide sensor, enter a "0".	<b>Carbon Monoxide Sensor</b> None 0 \$0.00 Carbon Monoxide (0-500 ppm) 1 \$133.99	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$133.99	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>E. Hydrogen Sulfide Sensor Option</b>		To choose to have a hydrogen sulfide sensor installed in your new Sirius Multigas Detector, enter selection 1. For no hydrogen sulfide sensor, enter a "0".	<b>Hydrogen Sulfide Sensor</b> None 0 \$0.00 Hydrogen Sulfide (0-100 ppm) 1 \$133.99	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$133.99	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>F. Battery Pack &amp; Charger Options</b>		You may choose between MSA's lithium ion battery pack which includes a standard lithium ion battery charger, or the convenience of an alkaline battery pack. You may also choose to have both battery pack types included with your new Sirius Multigas Detector.	<b>Battery Pack/Charger</b> None 0 \$0.00 Lithium ion, includes charger & cord A \$109.31 Replaceable alkaline B \$59.94 Both Lithium ion and replaceable alkaline battery packs C \$169.25	<b>Code</b> 0 A B C	<b>Price</b> \$0.00 \$109.31 \$59.94 \$169.25	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>G. Vehicle Charger Option</b>		If you would like to order the vehicle charger for your new Sirius Multigas Detector, enter selection 1.	<b>Vehicle Charger</b> None 0 \$0.00 Vehicle Charger 1 \$141.04	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$141.04	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>H. Sampling Lines</b>		MSA's Quick-Connect sampling lines are of the highest quality materials, guaranteed to provide accurate sampling concentrations. Sirius Multigas Detector sampling lines all includes a Quick-Connect air-line fitting for easy attachment and tight seal. For sampling jet fuel, enter selection 3 for the 10' teflon sampling line option, or selection 4 for the 25' sampling line option.	<b>Sampling Lines</b> None 0 \$0.00 10-foot polyurethane 1 \$44.08 25-foot polyurethane 2 \$47.60 10-foot teflon (for jet fuel sampling) 3 \$51.13 25-foot teflon (for jet fuel sampling) 4 \$58.18 3-foot polyurethane coiled 5 \$42.51	<b>Code</b> 0 1 2 3 4 5	<b>Price</b> \$0.00 \$44.08 \$47.60 \$51.13 \$58.18 \$42.51	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>I. Sampling Probes</b>		MSA's sampling probes are durable & comfortable to use. The built in Water-Stop filter ensures that your sampling system is not contaminated with dirt and debris if the probe tip is dipped in water. You must order a probe if you order a sampling line, as we strongly recommend that you operate the instrument with this filter in place.	<b>Sampling Probes</b> None 0 \$0.00 1-foot Probe 1 \$90.27 3-foot Probe 2 \$98.02 8-inch Probe 3 \$41.61	<b>Code</b> 0 1 2 3	<b>Price</b> \$0.00 \$90.27 \$98.02 \$41.61	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>J. Carrying Attachments</b>		While a high-strength stainless steel D-Ring is offered with this instrument at no extra charge, there are three other options for handling the instrument: the retractable carrying line for use with the D-Ring, the shoulder harness and the wrist harness to be used on the user's arm with a Level A suit.	<b>Carrying Attachments</b> None 0 \$0.00 Retractable Carrying Line with Belt Clip 1 \$28.21 Shoulder Harness 2 \$14.10 Wrist Harness 3 \$51.73	<b>Code</b> 0 1 2 3	<b>Price</b> \$0.00 \$28.21 \$14.10 \$51.73	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>K. Instrument Jackets and Boots</b>		To offer the highest level of instrument protection, you may choose a protective black rubber boot and harness, or a cordura jacket. You may also order both options by choosing selection C.	<b>Instrument Jacket/Boot</b> None 0 \$0.00 Red Boot with Harness R \$54.30 Cordura Jacket with Harness C \$51.73	<b>Code</b> 0 R C	<b>Price</b> \$0.00 \$54.30 \$51.73	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>L. Calibration Kits</b>		You may choose one of two calibration options for your Sirius Multigas Detector. The fixed-flow .25 lpm regulator includes a multigas calibration cylinder and also an isobutylene calibration gas cylinder if a PID selection is chosen. You may also order just the isobutylene calibration kit with gas cylinder.	<b>Calibration Kits</b> None 0 \$0.00 Econo-Cal Fixed-Flow Regulator Calibration Kit (includes multigas and isobutylene cylinders) 1 \$405.49 Model RP Fixed-Flow Regulator Calibration Kit (includes multigas and isobutylene cylinders) 2 \$458.38 Isobutylene Calibration Kit (includes gas cylinder) 3 \$282.08	<b>Code</b> 0 1 2 3	<b>Price</b> \$0.00 \$405.49 \$458.38 \$282.08	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>M. Data Communications Kit</b>		If you need to track the readings and operations of your Sirius Multigas Detector, consider ordering the instrument with the optional built-in datalogging module. The option also provides TWA and STEL capabilities.	<b>Data Communications</b> None 0 \$0.00 Data Link Module 1 \$176.30 Data Link Module and Software Kit 2 \$246.82	<b>Code</b> 0 1 2	<b>Price</b> \$0.00 \$176.30 \$246.82	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>N. Packaging</b>		Your new Sirius Multigas Detector may be protected by a standard black plastic case, or by a black premium field case. You may also choose the option of a long-term storage kit case for emergency response, large enough to hold the Sirius Multigas Detector, calibration cylinders, spare sensors, spare PID lamp and lithium ion battery pack with charger, spare alkaline battery pack, lamp cleaning kit and simple-to-read and understand refresher instructions.	<b>Packaging</b> Standard shipping carton 0 \$0.00 Standard black PVC case 1 \$88.86 Premium black field case 2 \$67.98 Long-term storage kit case 4 \$140.33 Long-term storage kit basic includes PID lamp, add \$180 each sensor 5 \$1124.79	<b>Code</b> 0 1 2 4 5	<b>Price</b> \$0.00 \$88.86 \$67.98 \$140.33 \$1124.79	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/> <input type="text" value="\$"/>
<b>O. PID Lamp Cap</b>		The standard easy-access lamp cap is included with your Sirius Multigas Detector at no extra charge. You may also choose a tamper-proof lamp cap.	<b>PID Lamp Cap</b> None 0 \$0.00 Standard easy-access lamp cap S \$0.00 Alternative tamper-proof lamp cap T \$0.00	<b>Code</b> 0 S T	<b>Price</b> \$0.00 \$0.00 \$0.00	<b>Selection</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/> <input type="text" value="\$0.00"/> <input type="text" value="\$"/>

**Net Discount  
29.48% Off List**

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	K	L	M	N	O
A-SIRIUS-	<input type="checkbox"/>														

Add Base Unit Price + \$1,445.66

Total Unit Price = \$

All Pricing is in US Dollars

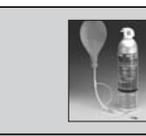






### MicroGard® Portable Alarm Assemble-to-Order (ATO) Options

- To generate your instrument configuration, select instrument options and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right and add to the base price of \$528.90 below.

<b>A.</b> Oxygen Sensor		You can order either a single-gas to two-gas version depending on your needs. All MicroGards come with a combustible sensor. The oxygen sensor is optional.	<b>Instrument Options</b> No oxygen sensor Includes oxygen sensor	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$169.25	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>B.</b> Combustible Gas Display Options		Select combustible sensor display. There are two options available, both with a UL intrinsic safety approval: 0-100% Lower Explosive Limit (%LEL) or 0-5% Methane (%CH <sub>4</sub> — MSHA/PaDER-approved)	<b>Sensors</b> % LEL Pentane % CH <sub>4</sub> (Methane)	<b>Code</b> L M	<b>Price</b> \$0.00 \$0.00	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$ 0.00"/>
<b>C.</b> Battery Pack Options		You can select from either a long-life rechargeable NiCd battery pack or a convenient, replaceable alkaline battery pack. The alkaline pack operates on 2 "C"-sized batteries.	<b>Battery Pack</b> Standard NiCd Rechargeable C-Cell Alkaline	<b>Code</b> N A	<b>Price</b> \$123.41 \$123.41	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>D.</b> Battery Charger Options		From wall adapters to vehicular chargers, you can recharge your batteries wherever you need.	<b>Battery Charger</b> None Standard 120 VAC 220 VAC 8-24V DC (Vehicle) Five-Unit Charger	<b>Code</b> 0 1 2 3 4	<b>Price</b> \$0.00 \$22.57 \$31.73 \$44.43 \$316.63	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>E.</b> Pump Module		If you need to draw a sample from a remote area, the MicroGard's sampling pump is a convenient option.	<b>Pump Module</b> None Pump	<b>Code</b> 0 1	<b>Price</b> \$0.00 \$278.55	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>F.</b> Sampling Probes		MSA's sampling probes are durable and comfortable to use. The built in WaterStop® filter in the handle of the probe ensures your sampling system is not contaminated with dirt and debris if the probe tip is dipped under water. You must order a probe if you order a sampling line as we strongly recommend you operate the instrument with this filter in place.	<b>Sampling Probe</b> None 1-foot straight 3-foot straight 3-foot bar-hole, holes near tip 3-foot bar-hole, holes near handle	<b>Code</b> 0 1 2 3 4	<b>Price</b> \$0.00 \$79.69 \$88.15 \$98.73 \$98.73	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>G.</b> Sampling Lines		MSA's high-speed sampling lines are of the highest quality materials guaranteed not to alter sample concentration. Screw fittings with O-Ring couplings at each end ensure there are no leaks when the system is operating.	<b>Sampling Lines</b> None 5-foot coiled 10-foot 15-foot 25-foot	<b>Code</b> 0 1 2 3 4	<b>Price</b> \$0.00 \$33.14 \$20.45 \$25.39 \$29.62	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>H.</b> Calibration Kits		MSA provides two options for verifying your MicroGard Alarm's calibration. The RP kit, with a constant flow regulator and replaceable cylinders, provides the greatest accuracy. The Squirt® Gas Check Kit's aerosol canisters provide an economical means to verify instrument calibration.	<b>Calibration Kits</b> None Model RP Calibration Kit, incl cylinder Squirt Gas Check Kit	<b>Code</b> 0 1 2	<b>Price</b> \$0.00 \$260.92 \$84.62	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>I.</b> Instrument Jackets		To offer the highest levels of environmental and rough-handling protection, you can order a high-visibility orange nylon jacket or a wipe-clean black vinyl jacket. The cases are designed to accommodate a diffusion instrument.	<b>Instrument Jackets</b> None Black vinyl jacket Orange nylon jacket	<b>Code</b> 0 1 2	<b>Price</b> \$0.00 \$18.34 \$29.62	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>
<b>J.</b> Packaging Options and Carrying Cases		You can further protect your MicroGard Alarm with optional carrying cases. For ease of transport and handling, these cases can accommodate many accessories. With the premium case, a simple-to-understand training videotape is included at no extra charge.	<b>Packaging &amp; Carrying Cases</b> Standard shipping container only Black plastic case Large, heavy duty case with video and space for cylinder	<b>Code</b> 0 1 2	<b>Price</b> \$0.00 \$88.15 \$133.99	<b>Selection</b> <input type="checkbox"/>	<b>Price</b> <input type="text" value="\$"/>

Please write in numbers from selections above in appropriate boxes and contact your Safety Products Distributor to place your order.

Your Model Part Number

Selection ... A B C D E F G H I J

A-MGD-    -  -    -  -

Add Base Unit Price + \$528.90

Total Unit Price= \$

Net Discount 29.48% Off List

All Pricing is in US Dollars





**Passport® PID II Organic Vapor Monitor Assemble-to-Order (ATO) Options**

- To select your instrument configuration, select instrument options and mark them in the boxes to the right.
- To calculate your instrument price, write in the price for each option in the space provided to the right, and add to the base price of \$3,116.98 below.
- All prices in U.S. dollars (\$).

<b>Base Instrument</b>		Standard lamp is 10.6 eV.	<b>Base Instrument</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			with Standard Lamp, 10.6 eV	PID2	\$3,116.98	<input checked="" type="checkbox"/>	\$ 3,116.98
<b>A. Response Factor Options</b>		The Passport PID II monitor comes with 69 pre-programmed and 10 user-enterable response factors. Currently, response factors are not an ATO option.	<b>Response Factor Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$0.00
<b>B. Battery Pack Options</b>		The Passport PID II provides you with many options to keep your instrument running. Either rechargeable NiCad or replaceable alkaline battery packs are available. Order both to be sure you have power for your instrument at a moment's notice.	<b>Battery Pack Options</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			Rechargeable standard NiCad battery pack	A	\$148.09	<input type="checkbox"/>	\$
			Rechargeable heavy-duty NiCad battery pack	B	\$185.47	<input type="checkbox"/>	\$
			Replaceable C alkaline packs	C	\$185.47	<input type="checkbox"/>	\$
			Standard NiCad battery pack and replaceable C alkaline battery packs	D	\$333.56	<input type="checkbox"/>	\$
			Heavy-duty rechargeable NiCad battery pack and replaceable C alkaline battery packs	E	\$370.94	<input type="checkbox"/>	\$
<b>C. Battery Charger Options</b>		From wall adapters to vehicular chargers, you can recharge your batteries wherever you need.	<b>Battery Chargers</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			8-24 VDC Vehicle Charger	1	\$81.10	<input type="checkbox"/>	\$
			110 VAC	2	\$42.31	<input type="checkbox"/>	\$
			220 VAC	3	\$52.89	<input type="checkbox"/>	\$
			Both 8-24 VDC and 110 VAC	4	\$123.41	<input type="checkbox"/>	\$
<b>D. Sample Line</b>		MSA's high-speed sampling line is of the highest quality materials guaranteed to not alter sample concentration. Screw fittings with O-ring couplings at each end help reduce the possibility of leaks when the tester is operating.	<b>Sampling Line</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			10-foot coiled Teflon	1	\$76.87	<input type="checkbox"/>	\$
<b>E. Sampling Probes</b>		MSA's sampling probes are durable and comfortable to use. The built-in WaterStop® filter ensures your sampling system is not contaminated with dirt and debris if the probe tip is dipped in water. You must order a probe if you order a sampling line as we strongly recommend you operate the instrument with this filter in place.	<b>Sampling Probes</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			8-inch probe	1	\$19.04	<input type="checkbox"/>	\$
			1-foot probe	2	\$74.69	<input type="checkbox"/>	\$
			3-foot probe	3	\$88.15	<input type="checkbox"/>	\$
			30-inch extendable probe	4	\$154.44	<input type="checkbox"/>	\$
<b>F. Carrying Attachments</b>		While a high-strength, stainless steel belt clip is offered with the instrument at no charge, there are two other options for handling the instrument. The swivel belt loop allows quick release for your belt with a half turn. The pistol grip kit is helpful for longer periods of sampling.	<b>Belt Attachments</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			Stainless Steel Belt Clip	1	\$0.00	<input type="checkbox"/>	\$
			Swivel Belt Loop	2	\$66.99	<input type="checkbox"/>	\$
			Pistol Grip	3	\$66.99	<input type="checkbox"/>	\$
<b>G. Instrument Jackets</b>		To offer the highest level of instrument protection, you can order a protective rubber boot, a high-visibility yellow nylon jacket, or wipe-clean black vinyl jacket. The cases are adjustable for all battery pack types. If you plan on using both alkaline and rechargeable batteries, we recommend the jackets, as one jacket can accommodate both battery types.	<b>Instrument Jackets</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			Black Boot	1	\$59.24	<input type="checkbox"/>	\$
			Orange Boot	2	\$59.24	<input type="checkbox"/>	\$
			Yellow Nylon Jacket	3	\$44.43	<input type="checkbox"/>	\$
			Black Vinyl Jacket	4	\$44.43	<input type="checkbox"/>	\$
<b>H. Remote Alarms</b>		Three remote alarms are offered: a 90dB, a 110 dB and a vibrating alarm. All models include the connecting cable. Please list the code number for the alarm desired in the spaces to the right.	<b>Remote Alarms</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			90 dB horn	1	\$334.97	<input type="checkbox"/>	\$
			110 dB horn	2	\$334.97	<input type="checkbox"/>	\$
			Vibrating Alarm	3	\$140.33	<input type="checkbox"/>	\$
<b>I. Data Docking Module</b>		A data cable/software package is used to download data stored in the internal memory.	<b>Data Docking Module</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			Software Package with Cable	D	\$351.89	<input type="checkbox"/>	\$
<b>J. Carrying Case</b>		Your Passport PID II monitor can be protected by either a standard plastic case or a premium field case with or without compartments for storing calibration accessories.	<b>Carrying Case</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			Standard packaging	0	\$0.00	<input type="checkbox"/>	\$
			Standard PVC case	1	\$70.52	<input type="checkbox"/>	\$
			Premium field case	2	\$88.15	<input type="checkbox"/>	\$
			Premium field case with compartments for calibration accessories	3	\$137.51	<input type="checkbox"/>	\$
<b>K. Test Gas</b>		Convenient and inexpensive way to check the instrument response. (Squirt Gas contains 11 Liters of 100 ppm Isobutylene in air.)	<b>Test Gas</b>	<b>Code</b>	<b>Price</b>	<b>Selection</b>	<b>Price</b>
			None	0	\$0.00	<input type="checkbox"/>	\$
			Bump Test Calibration Kit (includes Bump Test Kit & Squirt Gas)	B	\$37.20	<input type="checkbox"/>	\$

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 K  
A-PID2-  -  -  -  -  -  -  -  -  -

Add Base Price and Price of Options Selected Above

Total Unit Price = \$

All Pricing is in US Dollars

Net Discount  
29.48%  
Off List

