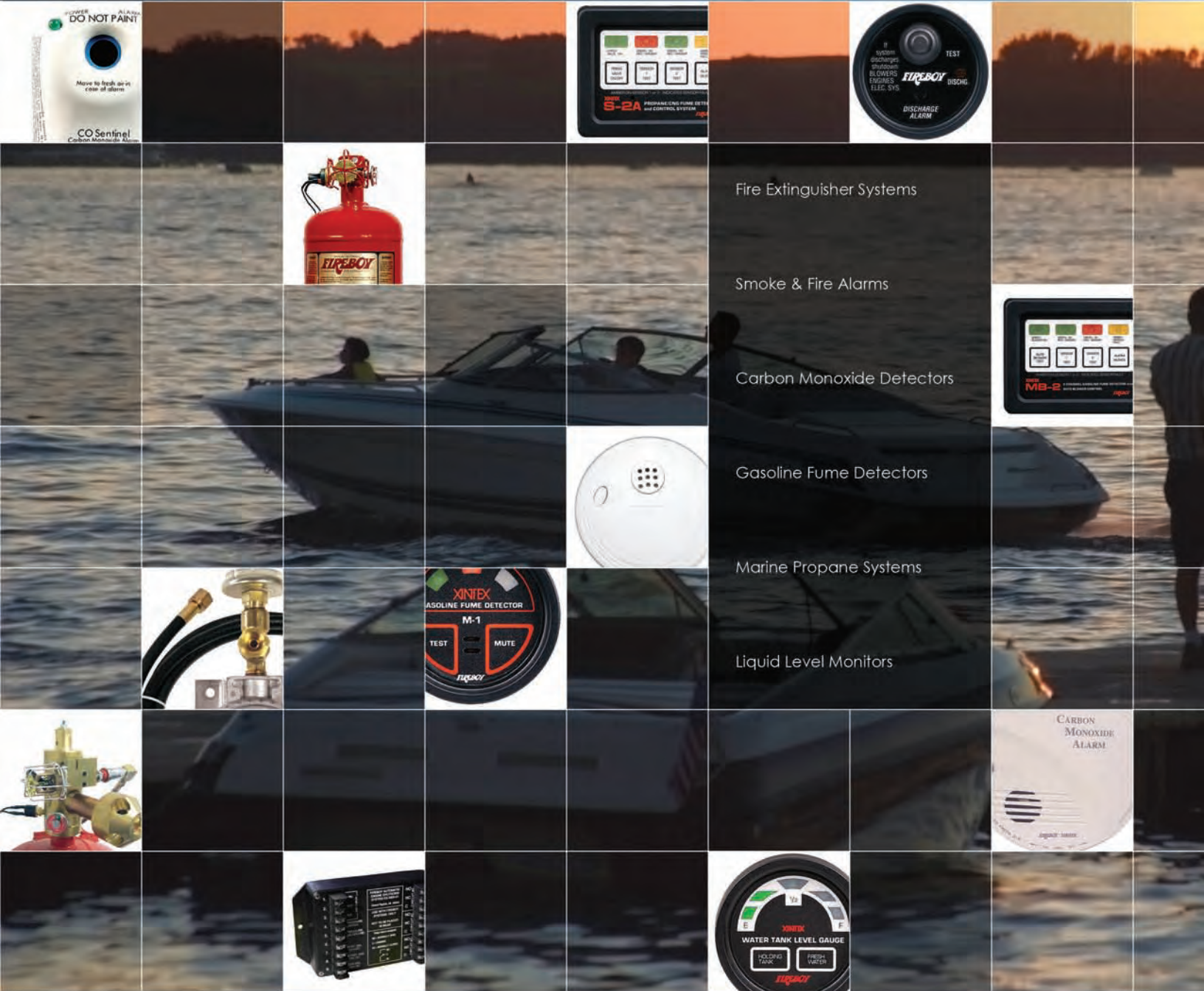


FIREBOY - XINTEX



Fire Extinguisher Systems

Smoke & Fire Alarms

Carbon Monoxide Detectors

Gasoline Fume Detectors

Marine Propane Systems

Liquid Level Monitors

Marine Safety Systems



Total Flooding, Clean Agent Fire Extinguishing Systems

U.S. Coast Guard studies show that approximately 90% of all marine fires start in the engine compartment. The same studies show that only one in ten marine fires is successfully extinguished with typical dry-chemical portable fire extinguishers due to the inherent difficulties of fighting a fire manually. In addition, dry-chemical fire extinguishers leave behind a powder that can damage the engine and sensitive electronic equipment.



Clean Agents: FE-241® vs. HFC-227ea

A choice of two Halon-replacement clean extinguishing agents are available. FE-241® (Chlorotetrafluoroethane) is approved for normally unoccupied spaces such as engine rooms and is approved for use in the United States. HFC-227ea (Heptafluoropropane) is approved for normally occupied spaces and is approved for use in European Union nations and many other countries due to its zero-ozone depleting properties. Both FE-241® and HFC-227ea are considered suitable Halon replacement agents under the EPA's SNAP program.

Approvals & Certifications

All Fireboy models are approved by Factory Mutual, U.S.C.G., and Bureau Veritas. Additionally, all systems containing HFC-227ea are approved to EN ISO 9094-1 and EN ISO 9094-2 Standards by Bureau Veritas, RINA, and Factory Mutual and are CE certified.



U.S.C.G.
Approved



RINA



Since pioneering the use of Halon systems in the early 1970's, Fireboy has designed safe and effective engine room fire protection with no water or powdery residue. All systems are heat activated to discharge the clean agent gas automatically at 175°F (79°C) with no operator intervention required. With a Fireboy system, the fire extinguishing agent is released much faster than any possible crew response, resulting in a faster fire-out time and less damage.

Fireboy Advantages

- Discharge is automatic at 175°F (79°C) for round-the-clock engine room fire protection
- Total flooding of the engine compartment in less than 10 seconds for fast smothering of the fire
- Clean agent Halon substitute gas (FE-241® or HFC-227ea) leaves no harmful residue to clean up
- Protection for small runabouts up to large yachts with engine rooms from 25 cubic feet up to 3,000 cubic feet (0.7 cubic m to 85 cubic m)
- Many marine insurance providers offer a discount to boaters who install a fixed fire extinguisher system (contact your insurer for details)
- All Fireboy extinguisher systems are currently manufactured in refillable cylinders; systems discharged in a fire are not refillable
- Three-Year Limited Warranty

Selecting Your System

Three Fireboy model series are available:

MA2 Series

- Automatic discharge with optional manual discharge when used with a Fireboy Manual Discharge Cable (sold separately)
- Engine rooms up to 1,500 cubic feet
- Vertical or horizontal mounting allowed
- FE-241® or HFC-227ea

CG2 Series

- Automatic discharge only
- Engine rooms up to 1,000 cubic feet
- Vertical or horizontal mounting allowed
- FE-241® or HFC-227ea

GA Series

- Two-cylinder system for larger vessels with engine rooms from 1,501 cubic feet to 3,000 cubic feet
- Cylinders are linked with flexible, braided stainless-steel hoses allowing for a near simultaneous discharge of both cylinders
- Requires the installation of Manual Discharge Cables
- Vertical mounting only
- HFC-227ea only





Selecting Your System (Cont'd)

1. Choose either the MA2 or CG2 Series (see pages 6 and 7 for the GA Series).
2. Determine the volume of your engine compartment in cubic feet or cubic meters, L x W x H. For after-market installations, the gross volume MUST be used unless the boat manufacturer has attached a decal stating the volume of the fixed tanks to be deducted.
3. Select the clean agent required: FE-241® or HFC-227ea.
4. Based on steps 1-3, choose your model number from the following charts. When in doubt, always choose the model that covers greater volume to ensure adequate protection.
5. If desired when choosing the MA2 Series, select the length of Manual Discharge Cable required (see page 5).

Example: MA2-200-227 = automatic discharge with optional manual discharge when used with a Fireboy Manual Discharge Cable, 200 cubic feet of coverage, HFC-227ea extinguishing agent.

WARNING: Diesel engines require the installation of a Fireboy Engine Shutdown System. See page 4.

Ready To Install

Each Fireboy system comes complete with stainless-steel mounting brackets, system status indicator light, and owner's manual.



CG2 Series Model Selection Chart

Model Number	Volume Protected		Diameter		Height		Agent Weight		Approximate Shipping Weight		U.S.C.G. Approval Number
	ft. ³	m ³	in.	cm	in.	cm	lbs.	kgs.	lbs.	kgs.	
CG2-025-FE241	25	.71	3	8	9.1	23	0.8	0.4	6	2.7	162.029/175/0
CG2-050-FE241	50	1.4	3	8	12.2	31	1.7	0.8	8	3.5	162.029/176/0
CG2-075-FE241	75	2.1	4.3	11	11.9	30	2.5	1.2	9	3.9	162.029/177/0
CG2-100-FE241	100	2.8	4.3	11	14.5	37	3.4	1.5	12	5.6	162.029/178/0
CG2-125-FE241	125	3.5	4.3	11	14.5	37	4.2	1.9	13	6	162.029/179/0
CG2-150-FE241	150	4.3	5.1	13	13.1	33	5.1	2.3	15	6.9	162.029/180/0
CG2-175-FE241	175	4.9	5.1	13	15.5	39	5.9	2.7	16	7.2	162.029/180/0
CG2-200-FE241	200	5.7	5.1	13	15.5	39	6.8	3.1	17	7.6	162.029/181/0
CG2-225-FE241	225	6.4	6.4	16	14.7	37	7.6	3.5	26	11.6	162.029/181/0
CG2-250-FE241	250	7.1	6.4	16	14.7	37	8.5	3.8	26	12	162.029/182/0
CG2-275-FE241	275	7.8	6.4	16	14.7	37	9.3	4.2	27	12.4	162.029/182/0
CG2-300-FE241	300	8.5	7.2	18	15.1	38	10.1	4.6	32	14.6	162.029/182/0
CG2-325-FE241	325	9.2	7.2	18	15.1	38	11	5	33	15	162.029/183/0
CG2-350-FE241	350	10	7.2	18	15.1	38	11.8	5.4	34	15.4	162.029/183/0
CG2-375-FE241	375	10.6	7.2	18	17.8	45	12.7	5.8	36	16.2	162.029/183/0
CG2-400-FE241	400	11.3	7.2	18	17.8	45	13.5	6.1	37	16.6	162.029/183/0
CG2-450-FE241	450	12.7	7.2	18	17.8	45	15.2	6.9	38	17.4	162.029/184/0
CG2-500-FE241	500	14.1	7.2	18	24.7	63	16.9	7.7	47	21.3	162.029/184/0
CG2-550-FE241	550	15.6	7.2	18	24.7	63	18.6	8.5	49	22.1	162.029/185/0
CG2-600-FE241	600	17	7.2	18	24.7	63	20.3	9.2	50	22.9	162.029/185/0
CG2-650-FE241	650	18.4	7.2	18	24.7	63	22	10	52	23.6	162.029/185/0
CG2-700-FE241	700	19.8	10	25	21.6	55	23.7	10.8	64	28.9	162.029/185/0
CG2-750-FE241	750	21.2	10	25	21.6	55	25.4	11.5	65	29.7	162.029/185/0
CG2-800-FE241	800	22.6	10	25	21.6	55	27	12.3	67	30.5	162.029/186/0
CG2-850-FE241	850	24	10	25	21.6	55	28.7	13.1	69	31.2	162.029/186/0
CG2-900-FE241	900	25.5	10	25	21.6	55	30.4	13.8	70	32	162.029/186/0
CG2-950-FE241	950	26.9	10	25	21.6	55	32.1	14.6	72	32.8	162.029/186/0
CG2-1000-FE241	1000	28.3	10	25	21.6	55	33.8	15.4	74	33.5	162.029/186/0
CG2-025-227	25	.71	3	8	9.1	23	1.1	0.5	6	2.8	162.029/202/0
CG2-050-227	50	1.4	3	8	12.2	31	2.2	1	8	3.7	162.029/203/0
CG2-075-227	75	2.1	4.3	11	11.9	30	3.2	1.5	9	4.2	162.029/205/0
CG2-100-227	100	2.8	4.3	11	14.5	37	4.3	2	13	6.1	162.029/205/0
CG2-125-227	125	3.5	4.3	11	14.5	37	5.4	2.5	14	6.5	162.029/206/0
CG2-150-227	150	4.3	5.1	13	13.1	33	6.5	2.9	16	7.5	162.029/207/0
CG2-175-227	175	4.9	5.1	13	15.5	39	7.6	3.4	18	8	162.029/208/0
CG2-200-227	200	5.7	5.1	13	15.5	39	8.6	3.9	19	8.5	162.029/208/0
CG2-225-227	225	6.4	6.4	16	14.7	37	9.7	4.4	28	12.6	162.029/209/0
CG2-250-227	250	7.1	6.4	16	14.7	37	10.8	4.9	29	13.1	162.029/209/0
CG2-275-227	275	7.8	6.4	16	14.7	37	11.9	5.4	30	13.6	162.029/209/0
CG2-300-227	300	8.5	7.2	18	15.1	38	13	5.9	35	15.9	162.029/210/0
CG2-325-227	325	9.2	7.2	18	15.1	38	14	6.4	36	16.4	162.029/210/0
CG2-350-227	350	10	7.2	18	15.1	38	15.1	6.9	37	16.9	162.029/210/0
CG2-375-227	375	10.6	7	18	18.8	48	16.2	7.4	38	17.4	162.029/210/0
CG2-400-227	400	11.3	7	18	18.8	48	17.3	7.9	39	17.9	162.029/211/0
CG2-450-227	450	12.7	7	18	18.8	48	19.4	8.8	41	18.8	162.029/211/0
CG2-500-227	500	14.1	7	18	25.7	65	21.6	9.8	47	21.2	162.029/212/0
CG2-550-227	550	15.6	7	18	25.7	65	23.8	10.8	49	22.2	162.029/212/0
CG2-600-227	600	17	7	18	25.7	65	25.9	11.8	51	23.1	162.029/212/0
CG2-650-227	650	18.4	7	18	25.7	65	28.1	12.8	53	24.1	162.029/213/0
CG2-700-227	700	19.8	10	25	21.6	55	30.2	13.7	77	35.1	162.029/213/0
CG2-750-227	750	21.2	10	25	21.6	55	32.4	14.7	79	36.1	162.029/213/0
CG2-800-227	800	22.6	10	25	21.6	55	34.6	15.7	82	37.1	162.029/213/0
CG2-850-227	850	24	10	25	21.6	55	36.7	16.7	84	38.1	162.029/213/0
CG2-900-227	900	25.5	10	25	21.6	55	38.9	17.7	86	39	162.029/214/0
CG2-950-227	950	26.9	10	25	21.6	55	41	18.7	88	40	162.029/214/0
CG2-1000-227	1000	28.3	10	25	21.6	55	43.2	19.6	90	41	162.029/214/0

MA2 Series Model Selection Chart

Fire Extinguisher Systems

Model Number	Volume Protected		Diameter		Height		Agent Weight		Approximate Shipping Weight		U.S.C.G. Approval Number
	ft. ³	m ³	in.	cm	in.	cm	lbs.	kgs.	lbs.	kgs.	
MA2-025-FE241	25	.71	3	8	9.1	23	0.8	0.4	6	2.7	162.029/187/0
MA2-050-FE241	50	1.4	3	8	12.2	31	1.7	0.8	8	3.5	162.029/188/0
MA2-075-FE241	75	2.1	4.3	11	11.9	30	2.5	1.2	9	3.9	162.029/189/0
MA2-100-FE241	100	2.8	4.3	11	14.5	37	3.4	1.5	12	5.6	162.029/190/0
MA2-125-FE241	125	3.5	4.3	11	14.5	37	4.2	1.9	13	6	162.029/191/0
MA2-150-FE241	150	4.3	5.1	13	13.1	33	5.1	2.3	15	6.9	162.029/192/0
MA2-175-FE241	175	4.9	5.1	13	15.5	39	5.9	2.7	16	7.2	162.029/192/0
MA2-200-FE241	200	5.7	5.1	13	15.5	39	6.8	3.1	17	7.6	162.029/193/0
MA2-225-FE241	225	6.4	6.4	16	14.7	37	7.6	3.5	26	11.6	162.029/193/0
MA2-250-FE241	250	7.1	6.4	16	14.7	37	8.5	3.8	26	12	162.029/194/0
MA2-275-FE241	275	7.8	6.4	16	14.7	37	9.3	4.2	27	12.4	162.029/194/0
MA2-300-FE241	300	8.5	7.2	18	15.1	38	10.1	4.6	32	14.6	162.029/194/0
MA2-325-FE241	325	9.2	7.2	18	15.1	38	11	5	33	15	162.029/195/0
MA2-350-FE241	350	10	7.2	18	15.1	38	11.8	5.4	34	15.4	162.029/195/0
MA2-375-FE241	375	10.6	7.2	18	17.8	45	12.7	5.8	36	16.2	162.029/195/0
MA2-400-FE241	400	11.3	7.2	18	17.8	45	13.5	6.1	37	16.6	162.029/195/0
MA2-450-FE241	450	12.7	7.2	18	17.8	45	15.2	6.9	38	17.4	162.029/196/0
MA2-500-FE241	500	14.1	7.2	18	24.7	63	16.9	7.7	47	21.3	162.029/196/0
MA2-550-FE241	550	15.6	7.2	18	24.7	63	18.6	8.5	49	22.1	162.029/197/0
MA2-600-FE241	600	17	7.2	18	24.7	63	20.3	9.2	50	22.9	162.029/197/0
MA2-650-FE241	650	18.4	7.2	18	24.7	63	22	10	52	23.6	162.029/197/0
MA2-700-FE241	700	19.8	10	25	21.6	55	23.7	10.8	64	28.9	162.029/197/0
MA2-750-FE241	750	21.2	10	25	21.6	55	25.4	11.5	65	29.7	162.029/197/0
MA2-800-FE241	800	22.6	10	25	21.6	55	27	12.3	67	30.5	162.029/198/0
MA2-850-FE241	850	24	10	25	21.6	55	28.7	13.1	69	31.2	162.029/198/0
MA2-900-FE241	900	25.5	10	25	21.6	55	30.4	13.8	70	32	162.029/198/0
MA2-950-FE241	950	26.9	10	25	21.6	55	32.1	14.6	72	32.8	162.029/198/0
MA2-1000-FE241	1000	28.3	10	25	21.6	55	33.8	15.4	74	33.5	162.029/198/0
MA2-1050-FE241	1050	29.7	10	25	21.6	55	35.5	16.1	75	34.3	162.029/199/0
MA2-1100-FE241	1100	31.1	10	25	21.6	55	37.2	16.9	77	35.1	162.029/200/0
MA2-1150-FE241	1150	33	10	25	21.6	55	38.9	17.7	79	35.9	162.029/200/0
MA2-1200-FE241	1200	34	10	25	27.7	70	40.6	18.4	86	38.9	162.029/200/0
MA2-1250-FE241	1250	35.4	10	25	27.7	70	42.3	19.2	87	39.7	162.029/200/0
MA2-1300-FE241	1300	36.8	10	25	27.7	70	60.8	27.7	106	48.1	162.029/201/0
MA2-1350-FE241	1350	38.2	10	25	27.7	70	63.2	28.7	108	49.2	162.029/201/0
MA2-1400-FE241	1400	39.6	10	25	27.7	70	65.5	29.8	111	50.2	162.029/201/0
MA2-1450-FE241	1450	41	10	25	27.7	70	67.9	30.8	113	51.3	162.029/201/0
MA2-1500-FE241	1500	42.5	10	25	27.7	70	70.2	31.9	115	52.4	162.029/201/0
MA2-025-227	25	.71	3	8	9.1	23	1.1	0.5	6	2.8	162.029/215/0
MA2-050-227	50	1.4	3	8	12.2	31	2.2	1	8	3.7	162.029/216/0
MA2-075-227	75	2.1	4.3	11	11.9	30	3.2	1.5	9	4.2	162.029/218/0
MA2-100-227	100	2.8	4.3	11	14.5	37	4.3	2	13	6.1	162.029/218/0
MA2-125-227	125	3.5	4.3	11	14.5	37	5.4	2.5	14	6.5	162.029/219/0
MA2-150-227	150	4.3	5.1	13	13.1	33	6.5	2.9	16	7.5	162.029/220/0
MA2-175-227	175	4.9	5.1	13	15.5	39	7.6	3.4	18	8	162.029/221/0
MA2-200-227	200	5.7	5.1	13	15.5	39	8.6	3.9	19	8.5	162.029/221/0
MA2-225-227	225	6.4	6.4	16	14.7	37	9.7	4.4	28	12.6	162.029/222/0
MA2-250-227	250	7.1	6.4	16	14.7	37	10.8	4.9	29	13.1	162.029/222/0
MA2-275-227	275	7.8	6.4	16	14.7	37	11.9	5.4	30	13.6	162.029/222/0
MA2-300-227	300	8.5	7.2	18	15.1	38	13	5.9	35	15.9	162.029/223/0
MA2-325-227	325	9.2	7.2	18	15.1	38	14	6.4	36	16.4	162.029/223/0
MA2-350-227	350	10	7.2	18	15.1	38	15.1	6.9	37	16.9	162.029/223/0
MA2-375-227	375	10.6	7	18	18.8	48	16.2	7.4	38	17.4	162.029/223/0
MA2-400-227	400	11.3	7	18	18.8	48	17.3	7.9	39	17.9	162.029/224/0
MA2-450-227	450	12.7	7	18	18.8	48	19.4	8.8	41	18.8	162.029/224/0
MA2-500-227	500	14.1	7	18	25.7	65	21.6	9.8	47	21.2	162.029/225/0
MA2-550-227	550	15.6	7	18	25.7	65	23.8	10.8	49	22.2	162.029/225/0
MA2-600-227	600	17	7	18	25.7	65	25.9	11.8	51	23.1	162.029/225/0
MA2-650-227	650	18.4	7	18	25.7	65	28.1	12.8	53	24.1	162.029/226/0
MA2-700-227	700	19.8	10	25	21.6	55	30.2	13.7	77	35.1	162.029/226/0
MA2-750-227	750	21.2	10	25	21.6	55	32.4	14.7	79	36.1	162.029/226/0
MA2-800-227	800	22.6	10	25	21.6	55	34.6	15.7	82	37.1	162.029/226/0
MA2-850-227	850	24	10	25	21.6	55	36.7	16.7	84	38.1	162.029/226/0
MA2-900-227	900	25.5	10	25	21.6	55	38.9	17.7	86	39	162.029/227/0
MA2-950-227	950	26.9	10	25	21.6	55	41	18.7	88	40	162.029/227/0
MA2-1000-227	1000	28.3	10	25	21.6	55	43.2	19.6	90	41	162.029/227/0
MA2-1050-227	1050	29.7	10	25	21.6	55	45.4	20.6	92	42	162.029/228/0
MA2-1100-227	1100	31.1	10	25	21.6	55	47.5	21.6	95	43	162.029/229/0
MA2-1150-227	1150	33	10	25	21.6	55	49.7	22.6	97	43.9	162.029/229/0
MA2-1200-227	1200	34	10	25	27.7	70	51.8	23.6	105	47.7	162.029/229/0
MA2-1250-227	1250	35.4	10	25	27.7	70	54	24.5	107	48.6	162.029/229/0
MA2-1300-227	1300	36.8	10	25	27.7	70	56.2	25.5	109	49.6	162.029/229/0
MA2-1350-227	1350	38.2	10	25	27.7	70	58.3	26.5	111	50.6	162.029/229/0
MA2-1400-227	1400	39.6	10	25	27.7	70	60.5	27.5	113	51.6	162.029/230/0
MA2-1450-227	1450	41	10	25	27.7	70	62.6	28.5	116	52.6	162.029/230/0
MA2-1500-227	1500	42.5	10	25	27.7	70	64.8	29.5	118	53.5	162.029/230/0

Engine Shutdown Systems: Required for Diesel Engines

Compressed gas suppressants such as FE-241® and HFC-227ea will not stall a diesel engine. If fire breaks out aboard a diesel powered vessel, the engine(s) must be shut down immediately for the Fireboy fire extinguisher system to effectively extinguish the fire. Continued engine operation may remove the agent, lowering the concentration required to effectively extinguish the fire, making an Engine Shutdown System necessary.



ES Series

Three model series are available for shutting down up to eight circuits with engine circuit relays featuring an operating range of 100 mA to 10 amps at 12 VDC unless otherwise noted. The 5000 and 8000 series are available with a 15-second time delay for GM diesels. Each engine shutdown system comes with a choice of round or square helm station display with integrated audible alarm, charged/discharged status lights, and manual override switch necessary for restart. 12 VDC or 24/32 VDC models are available.

ELS Series: Designed for Today's Electronic Engines

The ELS Series of Engine Shutdowns were developed to address low current, electronically controlled engines. Featuring sealed relays with gold-plated contacts, the ELS Series is guaranteed to operate in all electronic engine applications. Engine circuit relays feature an operating range of 10µA to 2 amps. Auxiliary relays have an operating range of 100 mA to 10 amps for the shutdown of generators, dampers, louvers, and other types of related engine room equipment. All ELS models are 12/24/32 VDC compatible with a choice of either a round or square display.

Model Number	Product Description	No. of Relays			15-Sec. Timer	Helm Display	
		2A	10A	30A		Round	Square
Three Circuit Engine Shutdown Systems							
ES-3000-01	3 Circuit 12 VDC Engine Shutdown		3			X	
ES-3000-02	3 Circuit 12 VDC Engine Shutdown		3				X
ES-3000-30S	3 Circuit 12 VDC Engine Shutdown w/ 1-30A Relay		2	1		X	
ES-3000-V	3 Circuit 12 VDC Engine Shutdown		3			X	
ES-3000-01-24V	3 Circuit 12/24/32 VDC Engine Shutdown		3			X	
ES-3000-02-24V	3 Circuit 12/24/32 VDC Engine Shutdown		3				X
ES-3000-30-24V	3 Circuit 12/24/32 VDC Engine Shutdown		2	1		X	
ELS-3510-01	3 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	1			X	
ELS-3510-02	3 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	1				X
Five Circuit Engine Shutdown Systems							
ES-5000-01	5 Circuit 12 VDC Engine Shutdown		5			X	
ES-5000-02	5 Circuit 12 VDC Engine Shutdown		5				X
ES-5015-01	5 Circuit 12 VDC Engine Shutdown w/ 15 Second Time Delay		5		X	X	
ES-5015-02	5 Circuit 12 VDC Engine Shutdown w/ 15 Second Time Delay		5		X		X
ES-5000-V	5 Circuit 12 VDC Engine Shutdown		5			X	
ES-5000-30P	5 Circuit 12/24/32 VDC Engine Shutdown w/ 1-30A Relay		4	1		X	
ES-5000-30S	5 Circuit 12/24/32 VDC Engine Shutdown w/ 2-30A Relays		3	2		X	
ES-5000-01-24V	5 Circuit 12/24/32 VDC Engine Shutdown		5			X	
ES-5000-02-24V	5 Circuit 12/24/32 VDC Engine Shutdown		5				X
ES-5015-01-24V	5 Circuit 12/24/32 VDC Engine Shutdown w/ 15 Second Time Delay		5		X	X	
ES-5015-02-24V	5 Circuit 12/24/32 VDC Engine Shutdown w/ 15 Second Time Delay		5		X		X
ES-5000-30P-24V	5 Circuit 12/24/32 VDC Engine Shutdown w/ 1-30A Relay		4	1		X	
ES-5000-01-24V-30S	5 Circuit 12/24/32 VDC Engine Shutdown w/ 2-30A Relays		3	2		X	
ELS-5510-01	5 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	3			X	
ELS-5510-02	5 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	3				X
Eight Circuit Engine Shutdown Systems							
ES-8000-01	8 Circuit 12 VDC Engine Shutdown		8			X	
ES-8000-02	8 Circuit 12 VDC Engine Shutdown		8				X
ES-8015-01	8 Circuit 12 VDC Engine Shutdown w/ 15 Second Time Delay		8		X	X	
ES-8015-02	8 Circuit 12 VDC Engine Shutdown w/ 15 Second Time Delay		8		X		X
ES-8000-30S	8 Circuit 12 VDC Engine Shutdown w/ 2-30A Relays		6	2		X	
ES-8000-02-30S	8 Circuit 12 VDC Engine Shutdown w/ 2-30A Relays		6	2			X
ES-8000-01-24V	8 Circuit 12/24/32 VDC Engine Shutdown		8			X	
ES-8000-02-24V	8 Circuit 12/24/32 VDC Engine Shutdown		8				X
ES-8015-01-24V	8 Circuit 12/24/32 VDC Engine Shutdown w/ 15 Second Time Delay		8		X	X	
ES-8015-02-24V	8 Circuit 12/24/32 VDC Engine Shutdown w/ 15 Second Time Delay		8		X		X
ES-8000-01-24V-30S	8 Circuit 12/24/32 VDC Engine Shutdown w/ 2-30A Relays		6	2		X	
ELS-8510-01	8 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	6			X	
ELS-8510-02	8 Circuit 12/24/32 VDC Engine Shutdown w/ 2-2A Gold Plated Contacts	2	6				X

Engine Shutdown Systems



Second Station Engine Shutdown Display

A second station display is available to provide audible alarm and system charge status with manual override switch in another location. Compatible with all Fireboy Engine Shutdown Systems. Model **DU-1002-01D** features a round display and model **DU-1002-02D** features a square display.



Wire Harness for Helm Station Display

A wire harness is available for wiring the engine shutdown helm station display to the engine shutdown relay box. The plug-together insulated connectors allow for easy installation.

Available in 30 feet, model **B-2174-30**, or 10 feet, model **B-2174-10**.



High-Temperature Manual Discharge Cables

Fireboy High-Temperature Manual Discharge Cables allow for the manual discharge of an MA2 or GA

Series system when smoke or flames are detected and meet the U.S. Coast Guard flame-test guidelines for fire resistance. Determine the length of cable needed by measuring from the extinguisher head to the desired location where the red T-handle can be easily pulled. Use the shortest allowable cable when possible. Maximum allowed bending of the cable (in degrees) should not exceed 360° and should be taken into consideration when selecting the cable length.

Model:	Length:	Model:	Length:
E-4209-06	6 feet	E-4209-36	36 feet
E-4209-08	8 feet	E-4209-40	40 feet
E-4209-10	10 feet	E-4209-45	45 feet
E-4209-12	12 feet	E-4209-50	50 feet
E-4209-14	14 feet	E-4209-55*	55 feet
E-4209-16	16 feet	E-4209-60	60 feet
E-4209-18	18 feet	E-4209-65*	65 feet
E-4209-20	20 feet	E-4209-70*	70 feet
E-4209-22	22 feet	E-4209-75*	75 feet
E-4209-24	24 feet	E-4209-80*	80 feet
E-4209-26	26 feet	E-4209-85*	85 feet
E-4209-28	28 feet	E-4209-90*	90 feet
E-4209-30	30 feet	E-4209-95*	95 feet
E-4209-34	34 feet	E-4209-100*	100 feet

*Special Order: Please allow 6 weeks for delivery.



Dual Release Adapter

Allows the manual discharge of a Fireboy MA2 or GA Series system from two separate locations. Requires two Manual Discharge Cables.

Model DRA-1001-01 includes six feet of cable and model DRA-1001-02 includes 20" of cable, which should be taken into consideration when measuring for dual installations.

CAA-0285-01 Cable Angle Adapter



For use with Fireboy Manual Discharge Cables when space limitations or owner preference call for an angled pull-out. Constructed of stainless-steel.



Clean Agent Portable Fire Extinguishers

Fireboy offers five pound and eleven pound clean agent portable fire extinguishers approved by the U.S. Coast Guard. Unlike dry chemical systems, these portables leave no residue or powdery mess. Applied directly to engines, they cause no cold shock as with carbon dioxide extinguishers and thus will not damage the engine or components. They provide ideal extinguishment capabilities for flammable liquids including gasoline and diesel fuel and are effective on galley fires. Both are UL Listed. Model 70551 is a 5 lb. portable with a 5BC rating and includes mounting bracket. Model 71100 is an 11 lb. portable with 1A10BC rating, mounting bracket 700228 sold separately. Two-year limited warranty.



90107 Fire System Status Indicator Panel

2" round extinguisher system status indicator panel with light. The green LED light provides constant monitoring of the system to comply with U.S. Coast Guard requirements for system approval. Included with all CG2, MA2, and GA Series systems. Adhesive back for easy mounting.



Waterproof Engine Shutdown Display with Remote Horn

Waterproof engine shutdown displays are available for open helm installations or when preferred by owner. Model DU-1003-01D-RH is a round display and model DU-1003-02D-RH is a square display. The 85 dB remote horn is attached to the display with a 12" pigtail. Green "Charged" and Red "Discharged" LED's indicate fire extinguisher system status. The switch allows for engine restart after fire extinguisher system discharge.



Discharge Alarm

Features an integrated alarm horn for a simple, single instrument installation. Includes "Test" button with waterproof boot and a red visual lamp that illuminates when the system is discharged. Model

DA-1001-011 is available with a round display and model DA-1001-021 is available with a square display.



Fire Bell

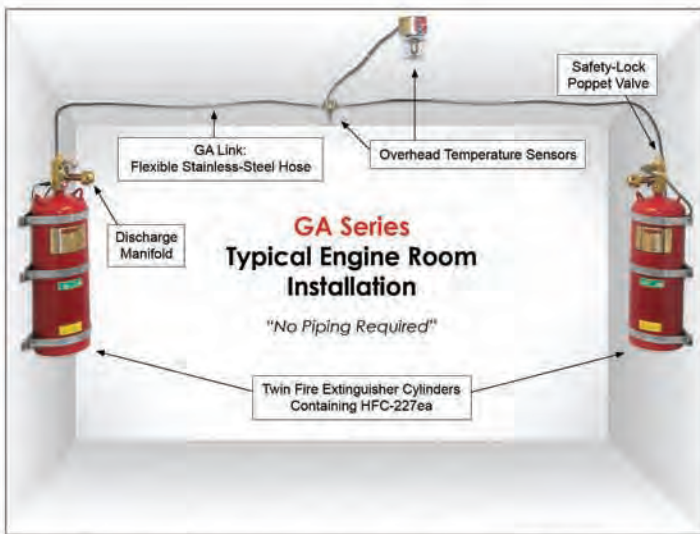
This 85 dB fire bell provides external alarming when the Fireboy fire extinguisher system discharges. UL Listed and Factory Mutual approved. Model ABS-12V is 12 VDC and model ABS-24V is 24 VDC.



Actuator Head Guards

Standard with all CG2, MA2, and GA Series models. Model 90084 is a chrome head guard for use with all GA Series models and CG2/MA2 25 cubic ft. through 350 cubic ft. (FE-241 and HFC-227ea) models. Model 90085 is a red head guard for use with CG2/MA2 375 cubic ft. through 1500 cubic ft. (FE-241 and HFC-227ea) models.





The GA Series

The Fireboy GA Series is a patented, pre-engineered total-flooding fire extinguishing system for protecting larger boats with engine rooms from 1,501 cubic feet (42.5 cubic meters) to 3,000 cubic feet (85 cubic meters). Each system includes twin extinguisher cylinders, flexible braided stainless-steel hosing, two overhead temperature sensors, fire-resistant manual release cables, and an engine shutdown.

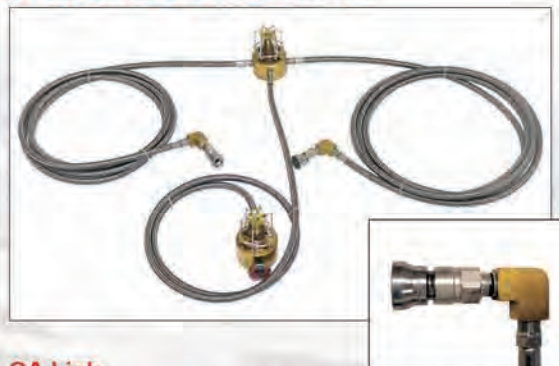
Four temperature sensors monitor the engine room temperature 24 hours per day. Two of the temperature sensors are located on the manifold blocks of the cylinders. The remaining two temperature sensors are installed above the engines and are linked to the extinguisher cylinders with the flexible hosing.

When the engine room temperature reaches 175°F (79°C) at any of the four temperature sensors, the system will completely discharge the clean agent HFC-227ea (Heptafluoropropane) in less than 10 seconds to successfully extinguish the fire. No powder or residue are left behind. The GA Series is approved by the U.S.C.G., Factory Mutual, RINA, and Bureau Veritas and is CE certified.

Advantages

- Due to its patented design, the GA Series installation process is less costly and less time consuming compared to other systems
- No complex piping as required with engineered fire suppression systems
- Flexible stainless-steel braided hosing (GA Link) allows for easier installation
- Safety-lock poppet valve prevents accidental discharge during shipping and installation
- Four temperature sensors throughout the engine room provide ample ambient temperature monitoring
- No third-party certification required; certification is done directly with Fireboy, eliminating inspection costs and minimizing down-time
 - The first pre-engineered fire extinguisher system protecting over 1,500 cubic feet approved by the United States Coast Guard

Description of Components



GA Link

Each GA Series system is custom fitted with a GA Link, a flexible, braided 316 stainless-steel hosing with double check-valve quick-connect couplings for easy attachment/detachment to the cylinder valves. The flexibility of the GA Link allows for easier installation of the system. No complex piping is required as with many engineered CO₂ fire systems.

Discharge Manifold



Includes a safety-lock poppet valve that prevents accidental discharge during installation and shipping. Extinguishant dispersion from the nozzle is 360° to totally flood the enclosure. In addition to the overhead temperature sensors mounted over each engine, one temperature sensor is mounted on each cylinder manifold and will trigger system discharge at 175°F (79°C) or when actuated manually.

Overhead Temperature Sensors



Two temperature sensors are mounted to the ceiling over each engine. They continuously monitor ambient engine room temperature and will trigger system discharge upon reaching 175°F (79°C). Extinguishant does not discharge from the overhead temperature sensors.



Description of Components (Cont'd)



Extinguisher Cylinders

Steel cylinders, DOT and FM approved for the GA Series working pressure and powder coated red for corrosion protection. Each GA Series system consists of two equal sized cylinders. Two handles on the top of each cylinder assist with handling and installation.



Engine Shutdown Controls

Automatically shuts down engines, generators, blowers and dampers upon system discharge; 3, 5, or 8 circuit shut-downs available, 12VDC or 24/32VDC. See page 4 for specifications.



Mounting Brackets

Stainless-steel, extra heavy duty, vibration tested mounting brackets. Three per cylinder (includes back brackets).



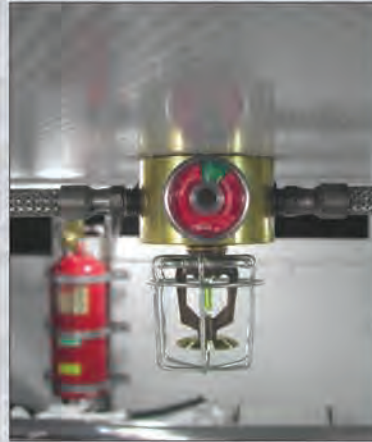
High-Temperature Manual Discharge Cables

Fireboy High-Temperature Manual Discharge Cables are fire-resistant and are required for all GA Series installations. See page 5 for model chart.

HFC-227ea Clean Agent

Clean agent gas with zero ozone depleting potential (Heptafluoropropane). Leaves no residue and will not damage engine or electronics. Acceptable for use in all European Union nations and many other countries.

Installation Photos

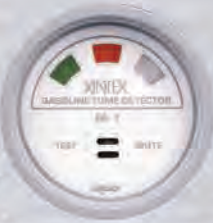


Selecting the Proper System

- Calculate the gross engine room volume by measuring the length, width, and height
- For aftermarket installations, the gross volume MUST be used unless the boat manufacturer has attached a decal stating the volume of the fixed tanks to be deducted
- Use the "Volume Protected" column on the chart below to determine the appropriate model number
- Determine the three (3) lengths of stainless-steel hose needed for the GA Link
- Select the lengths of Manual Discharge Cables needed by measuring from the discharge manifold on the cylinder to the mounting point of the 'T'-handle, including the bends, for both helm station and exit door
- Select an Engine Shutdown System based on system requirements

The GA Series is approved for marine applications only. Factory assistance is required for GA Series system selection and is available by calling (616) 735-9380.

Model Number	Volume Protected		Number of Cylinders	Diameter		Total Height		Agent Weight Per Cylinder		Gross Weight Per Cylinder		U.S.C.G. Approval No.
	ft. ³	m ³		in.	cm	in.	cm	lbs.	kgs.	lbs.	kgs.	
GA-1600-227	1600	45.3	2	10	25	26.2	67	34.6	15.7	68.8	31.3	162.029/240/0
GA-1700-227	1700	48.2	2	10	25	26.2	67	36.7	16.7	70.9	32.2	162.029/240/0
GA-1800-227	1800	51.0	2	10	25	26.2	67	38.9	17.7	73.1	33.2	162.029/240/0
GA-1900-227	1900	53.8	2	10	25	26.2	67	41.0	18.7	75.2	34.2	162.029/240/0
GA-2000-227	2000	56.7	2	10	25	26.2	67	43.2	19.6	77.4	35.2	162.029/240/0
GA-2100-227	2100	60.2	2	10	25	32.4	82	45.4	20.6	85.9	39.1	162.029/240/0
GA-2200-227	2200	62.3	2	10	25	32.4	82	47.5	21.6	88.1	40.0	162.029/240/0
GA-2300-227	2300	65.2	2	10	25	32.4	82	49.7	22.6	90.2	41.0	162.029/240/0
GA-2400-227	2400	68.0	2	10	25	32.4	82	51.8	23.6	92.4	42.0	162.029/240/0
GA-2500-227	2500	70.8	2	10	25	32.4	82	54.0	24.5	94.6	43.0	162.029/240/0
GA-2600-227	2600	73.7	2	10	25	32.4	82	56.2	25.5	96.7	44.0	162.029/240/0
GA-2700-227	2700	76.5	2	10	25	32.4	82	58.3	26.5	98.9	45.0	162.029/240/0
GA-2800-227	2800	79.3	2	10	25	32.4	82	60.5	27.5	101.0	45.9	162.029/240/0
GA-2900-227	2900	82.2	2	10	25	32.4	82	62.6	28.5	103.2	46.9	162.029/240/0
GA-3000-227	3000	85.0	2	10	25	32.4	82	64.8	29.5	105.4	47.9	162.029/240/0



M-1 Gasoline Fume Detector

An ideal single-channel gasoline fume detector. Features high-tech styling, compact 2" diameter size, circuitry "Test" and alarm horn "Mute" functions. The power on indicator lamp automatically increases in brightness in daylight and softens at night. The 85 dB alarm will sound when 18-20% LEL gasoline fumes are detected. In addition to gas fumes, this unit will also detect high concentrations of battery hydrogen or engine exhaust. Comes complete with one **MS-2** sensor with 20' of lead cable. Available standard in black. Also available in white, model **CCM-1**.

MB-1 Gasoline Fume Detector

All of the advanced features of the **M-1**, but with the added safety of a 10 amp relay to automatically start the bilge blower fan should fumes be detected. Installation requires only the addition of two wire leads from the control to the blower switch. To test, simply touch the "Test" pad on the control; the red alert lamp will glow, the alarm horn will sound and the blower motor will start. The system works with power requirements of up to ten amps at 12 VDC. Blowers up to 30 amps require an external relay, model **MB30-RLY**.

M-2A Gasoline Fume Detector

A microprocessor controlled, two-channel gasoline fume detector in a low profile, water resistant design. Features "Test" functions for each sensor. Illumination of the amber fault light indicates a sensor malfunction. The red LED will illuminate and the 85 dB alarm will sound when 18-20% LEL is reached. The "Alarm Silence" function deactivates the alarm horn. The system is calibrated to eliminate most nuisance alarms while allowing enough time to take action. Includes one **MS-2** sensor and 20' of lead cable. A second sensor is optional and sold separately. Display size is 4.75" x 3.75" x 7/8".



MB-2 Gasoline Fume Detector

Includes all of the features of the **M-2A** plus automatic bilge blower control for added safety. The red LED will illuminate, the 85 dB alarm will sound, and the bilge blower will activate automatically when a fume level of 18-20% LEL is reached. The bilge blower will remain on until the fume level is safely lowered. The illumination of the amber fault light indicates a sensor malfunction. The system also includes a "Test" button to confirm that each sensor is functioning properly. A 30 amp relay is included for installation. One **MS-2** sensor and 20' of lead cable are included. A second sensor is optional and sold separately. Display size is 4.75" x 3.75" x 7/8".



MS-2 Sensor
Detects propane/LPG, CNG, & gasoline fumes. Quick-disconnect cable allows for easy installation and maintenance. Lead from the sensor is 12'. Additional 20' cable is

included. Longer extension cables are available in lengths from 25' to 100'. Compatible with current model Xintex fume detectors only.



CNV-12-1 Voltage Reducer
For use when installing 12 VDC devices where on-board power suppliers are 24 or 32 VDC. Provides 1.25 amp output at 12 VDC. May be used with any device requiring 12 VDC with 1.25 amps or less input.



RH-1 Remote Horn
This 85 dB horn enables alarming in a remote location. Ideal for locations with extreme ambient noise or for the hearing impaired. For use with **M-2A** and **MB-2** only.

MB30-RLY Auxiliary Relay

Thirty amp, single-pole double-throw relay for extra heavy loads. For use with the **MB-1**, **MB-2** and **S-2A** only.

Carbon Monoxide: The Silent Killer

Carbon monoxide (CO) is generated wherever combustion occurs, including the operation of gasoline engines and heating and cooking appliances. It is invisible, odorless, tasteless, and deadly. Faulty venting or even a wind shift can create a dangerous situation, particularly in confined areas like boat cabins and sleeping quarters.

Carbon monoxide enters the bloodstream through the lungs, blocking the oxygen your body needs. Prolonged exposure to low concentrations or short exposure to high concentrations can be fatal. Typical symptoms of CO exposure can be mistaken for the flu, seasickness, or intoxication, making accurate on board CO detection a necessity.

Exposure Level	Symptoms
200 PPM	Slight headache within 2 to 3 hours.
400 PPM	Frontal headache within 1 to 2 hours.
800 PPM	Dizziness, nausea and convulsions within 45 minutes. Insensible within 2 hours.
1600 PPM	Headache, dizziness and nausea within 20 minutes. Death within 30 minutes.
3200 PPM	Headache, dizziness and nausea in 5 to 10 minutes. Death within 30 minutes.
6400 PPM	Headache and dizziness in 1 to 2 minutes.
12800 PPM	Death in less than 3 minutes.

Carbon Monoxide Can Accumulate In Many Ways

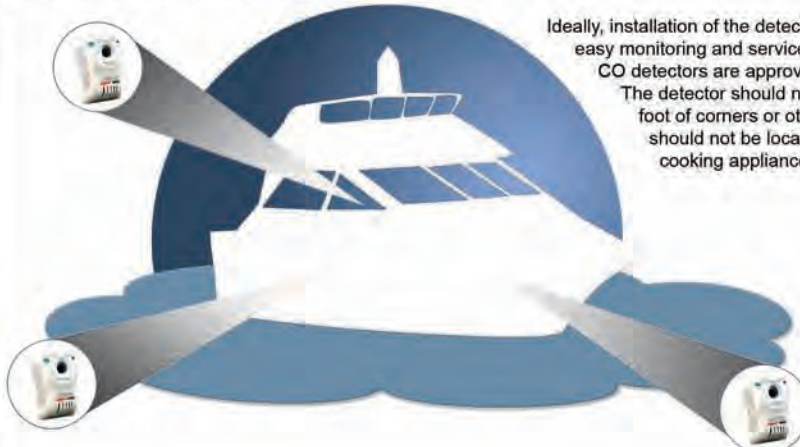
- Inadequately ventilated enclosures
- Blocked exhaust outlets
- Another vessel's exhaust
- The "station wagon effect" or back drafting
- At idle or slow speeds

Protect Yourself and Others

Installing and maintaining marine-grade CO detectors inside your boat can help protect you and your crew by helping to minimize the exposure to dangerous levels of carbon monoxide gas. Using the principle of "Time Weighted Averaging", Fireboy-Xintex CO detectors monitor CO concentration, temperature, and time to calculate levels of Carboxyhemoglobin (COHb). COHb is the degree to which the oxygen carrying capacity of the blood is impeded by the union of carbon monoxide to the hemoglobin and is expressed as a percentage. In Layman's terms, our bodies prefer absorbing CO to oxygen and COHb is the ratio of absorbed carbon monoxide to oxygen in the bloodstream. Fireboy-Xintex CO detectors calculate this COHb as a function of time and determine the appropriate alarm time.

Recommended Carbon Monoxide Detector Installation

A carbon monoxide detector should be installed in each accommodation space. Small craft with an open design may require only one detector for adequate protection. If two or more sleeping areas or spaces are partitioned, then one detector should be installed in each of the spaces.



Ideally, installation of the detector should be at eye level for easy monitoring and service. However, Fireboy-Xintex CO detectors are approved for wall or ceiling mounting. The detector should not be mounted within one foot of corners or other "dead air" spaces and should not be located within five feet of any cooking appliance.

- Galley
- Aft cabin
- V-berth

CO Sentinel: CMD-4M-RLY

Model **CMD-4M-RLY** is a state-of-the-art carbon monoxide detector that utilizes a relay circuit allowing for the optional automatic shutdown of the generator upon detection of dangerous CO levels. In addition, the relay allows for connecting up to six (6) units in series for multiple location warning; when one unit alarms, all interconnected units will alarm for increased safety. The 12 VDC operation with a low current draw of only 46 mA allows for direct battery connection without discharge. The advanced self-cleaning sensor is not affected by common cleaning solvents and helps eliminate false alarms due to contamination. It utilizes Time Weighted Average technology for determining dangerous CO levels. When 10% COHb is reached, the 85 dB alarm will sound to alert inhabitants. UL 2034 Marine Listed. 3.5" length x 2.4" width x 1.3" depth.



CO Sentinel: CMD-4M

The **CMD-4M** is a 12 VDC detector that is ideal when automatic generator shutdown and multiple location warning features are not desired. Extremely low current draw of only 16 mA during normal operation. The advanced self-cleaning sensor is not affected by common cleaning solvents and helps eliminate false alarms due to contamination. It utilizes Time Weighted Average technology for determining dangerous CO levels. When 10% COHb is reached, the 85 dB alarm will sound to alert inhabitants. UL 2034 Marine Listed. 3.5" length x 2.4" width x 1.3" depth.

100102 Conversion Plate

Recommended for covering up wear left behind by older and larger Xintex carbon monoxide detectors. Simply mount the conversion plate to the wall, then mount either CO Sentinel model to the conversion plate. Dimensions are 4.5" x 2.75". Comes ready to mount with stainless-steel screws.

CMD-1M-9V

Model **CMD-1M-9V** is a 9V battery operated carbon monoxide detector (9V Duracell Battery included) ideal for boats without CO detectors or boats requiring additional CO detectors. No wiring is required, allowing for easy installation in either wall or ceiling mount locations. The patented biomimetic sensor mimics the human response to carbon monoxide and uses Time Weighted Average technology to determine when dangerous CO levels are present. The 85 dB alarm will sound when 10% COHb is reached. Meets the Consumer Product Safety Commission 5-year serviceability requirement for CO detectors; replace detector after 5-years from date of manufacture. UL 2034 Marine Listed. 4.75" diameter x 1.5" height.



Model Number	Voltage	Current Draw	Operation Temperature	Alarm Points	Alarm dB	Listing	Warranty
CMD-4M	12 VDC	16 mA	32°F to 131°F	10% COHb	85 dB @ 10 ft.	UL 2034 Marine	1-Year
CMD-4M-RLY	12 VDC	46 mA	32°F to 131°F	10% COHb	85 dB @ 10 ft.	UL 2034 Marine	1-Year
CMD-1M-9V	9 V	.016 mA	40°F to 100°F	10% COHb	85 dB @ 10 ft.	UL 2034 Marine	1-Year

SS-770 Smoke & Fire Alarm

The **SS-770** is a 9V (battery included) general purpose smoke and fire alarm for use on boats and RV's. Using the principle of ionization, it will detect fast-flaming fires which consume combustible materials rapidly. Recommended installation is one unit in each sleeping accommodation, salon, galley, engine/generator room, and electrical control room for adequate protection.

Meets the requirement of NFPA 302 stating that "All vessels 26 feet or more in length with accommodation spaces intended for sleeping shall be equipped with a single station smoke alarm that is listed to UL217 for recreational vehicles..." and complies with U.S. Coast Guard Section 28.325(b) and Section 181.450 inclusive.



Model Number	Voltage	Alarm dB	Dimensions	Listing	Warranty
SS-770	9V	85 dB	4.25" Diameter, 1.25" H	UL 217 for RV's	1-Year Limited Warranty



S-2A Propane Fume Detector with Solenoid Valve Control

A microprocessor controlled two-channel propane fume detector with solenoid valve control. ON/OFF switch opens and closes the solenoid valve with the touch of a button. Green LED indicates when valve is open. Includes one MS-2 sensor; second sensor is optional. Test buttons for each channel confirm sensor functions. The system is calibrated to alarm at 18-20% LEL (Lower Explosive Limit). 85 dB audible alarm. SV-1 solenoid valve is included. 12 VDC operation. Display size 4.75" x 3.75" x 7/8".



S-1A Propane Fume Detector with Solenoid Valve Control

Single-channel propane fume detector with solenoid valve control. The 85 dB alarm sounds at 18-20% LEL and the red LED will illuminate. The "Valve ON/OFF" button opens and closes the solenoid valve. The middle green LED indicates when valve is open and the left green LED indicates normal operation mode when the power is on. Includes one MS-2 sensor and SV-1 solenoid valve. 12 VDC operation. Display size is 2" x 2" x 7/8".

S-1 Propane Fume Detector

Single-channel propane fume detector with a compact 2" diameter display. Solenoid valve control NOT available. Includes "Test" and "Mute" functions. The 85 dB alarm sounds at 18-20% LEL and the red LED will illuminate. When illuminated, the green LED will indicate normal operating mode. Includes one MS-2 sensor and 20' of cable. 12 VDC operation.



C-1 Control

Solenoid valve control with easy-touch ON/OFF button. Red LED indicates when the solenoid valve is open. The solenoid valve is normally closed and must have power applied to open. Fail-safe feature includes automatic valve closure in a power failure situation. 12 VDC operation with connections at convenient terminal strip. Includes one SV-1 solenoid valve. Display size is 4.75" x 3.75" x 7/8".



SV-1 Solenoid Valve
1/4" solenoid valve for use with C-1, S-1A and S-2A. Operates on 12 VDC. Opens/closes flow of propane when powered. Automatically closes with low or no current for added safety. 1/4" female NPT inlet, 1/4" male NPT outlet. Includes 3/8" Male Flare x 1/4" Female NPT brass fitting (PF-5446). Rated for 0-312 psi. Orifice size is 0.110". UL Listed.



SV-2 Solenoid Valve
3/8" solenoid valve for use with C-1, S-1A and S-2A. Operates on 12 VDC. Opens the flow of propane when powered and automatically closes with low or no current for added safety. 3/8" female NPT inlet, 3/8" female NPT outlet. Rated for 0-350 psi.



MS-2 Sensor
Detects propane/LPG, CNG, & gasoline fumes. Quick-disconnect cable allows for easy installation and maintenance. Lead from the sensor is 12". Additional 20' cable is included. Longer extension cables are available in lengths from 25' to 100'. Sensor is to be mounted near the ground for propane/LPG installations. Compatible with current model Xintex fume detectors only.



CNV-12-1 Voltage Reducer
For use when installing 12 VDC devices where on-board power suppliers are 24 or 32 VDC. Provides 1.25 amp output at 12 VDC. May be used with any device requiring 12 VDC with 1.25 amps or less input.

MB30-RLY Auxiliary Relay

Thirty amp, single-pole double-throw relay for extra heavy loads. For use with the S-2A, MB-1 and MB-2 only.



PR-5414 Single Stage Wall-Mount Regulator

Wall-mount regulator with 300 psi pressure gauge. Complete with two wall-mount brackets and 20" POL pigtail hose. 3/8" FPT outlet, 1/4" inverted female flare inlet. Die cast zinc body is UL Listed. Meets ABYC Standards.



PR-5413 Single Stage Tank-Mount Regulator

Tank-mount regulator with 300 psi pressure gauge. Male POL fitting screws directly into the LPG cylinder. 3/8" FPT outlet. Die cast zinc body is UL Listed. Meets ABYC Standards.



PR-5412 Two Stage Regulator

Regulator capable of accepting two cylinders. Equipped with two 300 psi pressure gauges and mounting brackets. Automatically changes over to full cylinder when selected cylinder is empty. The dome remains orange until a full cylinder is selected with the black selector switch. Two 1/4" inverted female flare inlets, one 3/8" FPT outlet. Die cast zinc body is UL Listed. Meets ABYC Standards.

Hoses



PA-5426 POL Pigtail Hose

20" thermoplastic POL pigtail hose assembly. Connects wall-mount regulators to LPG cylinders.

Male POL x 1/4" male inverted flare.



PF-5437 LPG Remote Regulator Hose

20" thermoplastic hose assembly. Connects tank-mount style regulators

(PR-5413) to LPG cylinder. Male POL x female POL receptacle.



PH-5422 Pigtail Hose for Type 1 Cylinders

20" thermoplastic hose assembly connecting wall-mount regulators to LPG cylinder. Equipped with QCC nut for quick and easy hand-tight connection. Heat

sensing QCC nut shuts off gas flow at 240°F and up. 1-5/16" ACME threading x 1/4" male inverted flare.



PH-5416 6' High Pressure LPG Hose

Converts appliances from disposable cylinders to refillable LPG cylinders. Hand wheel male POL screws into the LPG cylinder. 1"-20 Male swivel fitting screws into the

appliance's built-in regulator. UL Listed.



PH-5434 High Pressure Gas Grill Connection Kit with Hose

Easily converts gas grill from a small disposable bottle to a refillable LPG cylinder. The tee installs

before the regulator (high pressure side). The male POL end of the connection tee screws directly into the refillable LPG cylinder. The female POL end of the connection tee accepts a tank mount regulator (PR-5413) or POL pigtail hose (PA-5426) that leads to a wall-mount regulator. The 1"-20 female fitting of the tee accepts the 6 ft. hose, which connects directly into the grill's built-in regulator.



Assembled Supply Hoses

High pressure, thermoplastic propane supply hoses with 350 psi working pressure. UL Listed. Brass 3/8" female swivel flares at each end.

Model Number:	Length:
PH-5421	2 feet
PH-5418	5 feet
PH-5419	10 feet
PH-5420	15 feet
PH-5415	20 feet
PH-5417	30 feet
PH-5424	40 feet

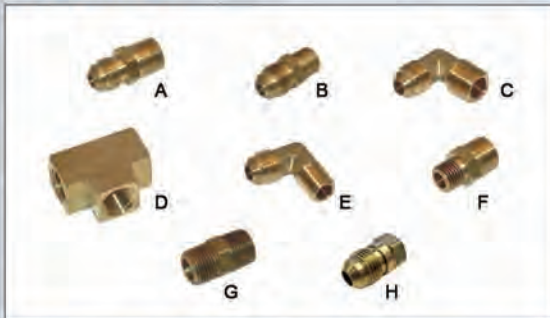


PH-5423 Low Pressure Gas Grill Connection Kit with Hose

Converts gas grill from disposable bottles to refillable LPG cylinders when used with a low pressure control valve at the grill that is

recommended by its manufacturer. The tee installs after the regulator (low pressure side). Red tear-drop handle controls the AGA ball valve to open/close flow of gas. 3/8" male flare fittings on tee. Includes 10 ft. supply hose with 3/8" female swivel flares.

Brass Fittings



- A. PF-5431 3/8" Male Flare x 3/8" Male NPT
- B. PF-5432 3/8" Male Flare x 1/4" Male NPT
- C. PF-5435 90° Elbow, 3/8" Male Flare x 3/8" Male NPT
- D. PF-5439 3/8" Female Pipe Tee
- E. PF-5442 90° Elbow, 3/8" Male Flare x 1/4" Male NPT
- F. PF-5443 3/8" Male NPT x 1/4" Male NPT
- G. PF-5444 3/8" Male NPT Nipple
- H. PF-5446 3/8" Male Flare x 1/4" Female NPT

Note: NPT threads require Teflon tape or thread sealant.

Adapters & Accessories



PA-5429 LPG Leak Test Adapter

Adapts non-marine LPG regulators to meet ABYC Standards. Installs between LPG cylinder and regulator or pigtail hose. Assembled with 300 psi pressure gauge. Brass male POL x female POL receptacle.



PF-5438 European Cylinder to U.S. Regulator Adapter

Permits the use of European "Camping Gaz" cylinders with U.S. LPG regulators. Solid brass female POL receptacle, AGA ball valve with blue butterfly handle, and European M16 x 1.5 fitting with gasket.



PF-5433 Low Pressure Gas Grill Connection Kit

Converts gas grill from disposable bottles to refillable LPG cylinders

when used with a low pressure control valve at the grill that is recommended by its manufacturer. Installs after the regulator (low pressure side). Tee fittings are 3/8" Male Flares. Includes AGA gas valve with red teardrop handle, adapters and cap.



PF-5436 U.S. Cylinder to Euro Regulator Adapter

Permits the use of a U.S. LPG cylinder with a European regulator. Brass male POL fitting x European female M16 x 1.5 "Camping Gaz" receptacle.



PA-5425 Disposable Cylinder Adapter

Connects a disposable propane bottle to a regulator or pigtail hose. Ideal for use

when the main LPG cylinder runs out of fuel. Female 1"-20 x female POL receptacle.



PF-5445 Type 1 Adapter

Adapts appliances to Type 1 style cylinders.

1/4" male NPT x Type 1 ACME connection. Hand-tight connection with QCC Nut.



PF-5441 Regulator Cover

Protects LPG regulators from corrosion and adverse conditions. Made of white PVC.



Vapor Tight Thru Fittings: PA-5428 (3/8") & PA-5427 (5/8")

For thru bulkhead, deck, or wall installations. Meets ABYC Standards for non-abrasive and vapor tight seal. Constructed of nylon.



PF-5440 Regulator Mounting Brackets

Two stainless-steel brackets for mounting single-stage or two-stage regulators from a remote location. Includes stainless-steel screws.

ABYC Marine LPG System Leak Test

Test for system leakage each time the cylinder supply valve is opened for appliance use. Close all appliance valves. Open solenoid valve if installed. Open, then close cylinder supply valve. Observe the pressure gauge at the regulating device and see that it remains constant for not less than three minutes before any appliance is used. If leakage is evidenced by a pressure drop, check the system with a leak detection fluid or detergent solution which does not contain ammonia and repair before operating system.

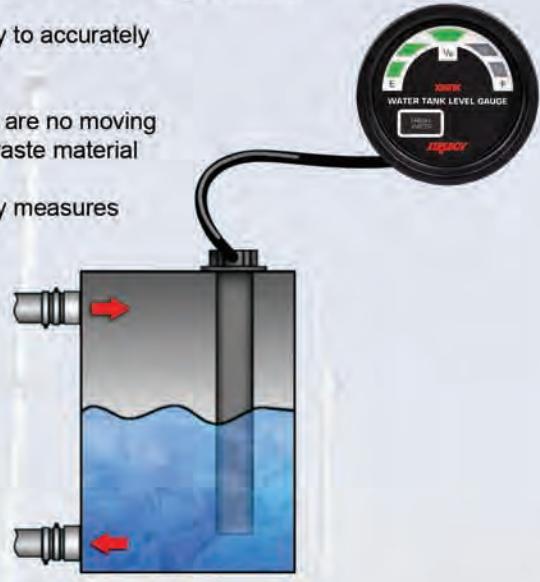
WARNING: Never use flame to check for leaks.



Pneumatic Liquid Level Monitoring System

Measuring marine water and holding tanks requires a reliable system. The new generation of Fireboy-Xintex pneumatic liquid level monitoring senders and display gauges were designed with no moving parts to stick or clog, giving you peace of mind knowing that you are getting the most accurate readings possible.

- Tank senders use pneumatic (pressure) reading technology to accurately measure waste and water tank levels
- Troublesome clogging is virtually eliminated because there are no moving parts and the electronics do not come in contact with the waste material
- Solid-state, advanced micro-processor controller accurately measures pressure changes to measure tank levels
- Not affected by atmospheric changes
- Two-wire sender connection
- New PTS and PFS Senders replace all Xintex TS and FS Senders (two-wire) and are compatible with existing LLM-1/LLM-2 Series gauges for convenient system retrofit; not a replacement for Xintex WTG Series (three-wire) senders



PTS

PFS

Pneumatic Tank Senders

Pneumatic Threaded Senders (PTS) easily install into plastic or metal tanks with 1-1/2" NPT threads. Pneumatic Flanged Senders (PFS) are available for tanks without a threaded top port and utilize a five-bolt pattern for installation. Gasket and five stainless-steel 8# 1-1/4" phillips screws are included.

Sender sizes are available from 7" to 36" in 1" increments. No calibration or user programming required. All senders are factory calibrated and ready to install. However, PTS and PFS senders may be shortened and re-calibrated in the field to adapt to smaller tanks.

Displays



Displays are available for monitoring one or two tanks in any combination of fresh water or holding tank. Five green LED's illuminate to indicate empty, 1/4, 1/2, 3/4, and full. Press the pad to instantly see the tank levels. The display will not illuminate during standby to conserve current draw. 12 VDC operation. 2" round.



LLM-1



LLM-2

How To Select Your Liquid Level Monitoring System

Tank Sender Selection

Select the Threaded (PTS) series for tanks with 1-1/2" NPT threaded top ports. Select the Flanged (PFS) series for tanks without threaded top ports. Flanged Senders have a 5-bolt pattern that attaches to the top of the tank.

To determine the length of sender needed, measure the height of the tank. Select the length of sender to the nearest inch that will come no closer than 1-1/2" from the bottom of the tank.

Example: Model **PTS-12** for a twelve inch Threaded Sender; model **PFS-14** for a fourteen inch Flanged Sender.

Display Selection

Select the display based on the number and type of tanks that you will be monitoring.

Model Number:	Description:
LLM-1	1 holding tank
LLM-1F	1 fresh water tank
LLM-2	1 holding tank, 1 fresh water tank
LLM-2H	2 holding tanks
LLM-2F	2 fresh water tanks
LLM-2HC-EXT	2 holding tanks with external alarm at 3/4 full

For monitoring three or more tanks, select additional display(s) as needed.

Liquid Level Monitors



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