

Wednesday, 18 November 2020

Mr. Ratchata Limwong
General Manager
Matchanu Marine Phuket Co.,Ltd.
157/5 M.7 A.Thalang T.Maikhao,
Thep Kasattri Rd.,
Phuket 83110
Thailand.

Dear Mr. Ratchata Limwong

RE: Authorised Reseller for Fireboy-Xintex Marine Products

This letter is to recognise that Matchanu Marine Phuket Co.,Ltd. has been appointed as an official Reseller for Fire Protection Technologies Fireboy-Xintex Marine Products. Fire Protection Technologies is the Authorised Asia Pacific representative for Fireboy-Xintex.

Matchanu Marine Phuket Co.,Ltd. has the authority to sell, install, commission and service the Fireboy-Xintex Marine Products in the region of Thailand. This reseller arrangement has been in existence for 2 years since 2018.

Should anyone wish to confirm this letter and the terms of our supply arrangement, I can be contacted on (+65 9856 0920) or by email (chris@fire-protection.com.sg).

Best Regards,

Chris Trapnell

Chris Trapnell
Director/Regional Manager South East Asia





Engine Shutdown Systems

Required for Suppression Systems in Protected Spaces with Diesel Engines

ESC, ELS and ES Series

Compressed gas suppressants such as HFC-227ea and 3M™ Novec™ 1230 Fire Protection Fluid will not stall a diesel engine. If a fire breaks out aboard a diesel powered vessel, the engine(s) must be shut down prior or during the discharge of the Fireboy suppression 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.



ESC SERIES

Featuring an ISO 54 enclosure, fuses, internal terminals, Heyco™ wire connectors, and a see-through cover to easily observe the circuit board mounted LEDs, which indicate circuit board and Fireboy extinguisher status, or that a fault condition exists. Non-energized relays. A combination of models including 6, 8 and 10 circuits.

- 30 amp (operating range 100 mA to 30 amp)
- 10 amp (operating range 100 mA to 10 amp)
- 2 amp gold-plated relays (operating range 10 μA to 2 amps)

All ESC models operate on 12 or 24 VDC.

All models come with a square, water resistant membrane touch display featuring dimmable LEDs for the helm station with override function. Includes DU-SBH-20 square display. See back.

Note: The display unit in these systems replaces the lamp and legend plate provided with each Fireboy pre-engineered extinguisher system.



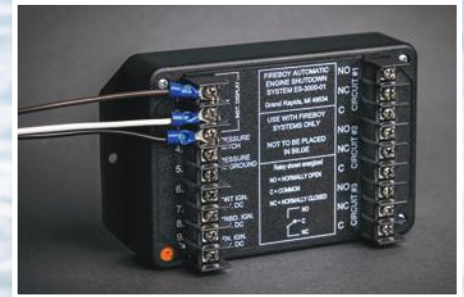
ELS SERIES

Designed for low current, electronically controlled engines. Featuring sealed relays with gold-plated contacts and guaranteed to operate in all electronic engine applications. Engine circuit relays feature an operating range of 10 μA 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. ELS models are 12 or 24 VDC compatible with a round (DU-RBH-20) or square (DU-SBH-20) display.



WIRE HARNESS EXTENSION FOR HELM DISPLAY

For all engine shutdown systems, this wire harness extension is available for extending the cable between the engine shutdown helm display and the relay box. The insulated connectors allow for easy installation. 30 ft cable: B-2174-30 or 10 ft cable: B-2174-10



ES SERIES

Three models are available for shutting down up to 8 circuits with 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 delay for GM diesels. Each system comes with a round (DU-RBH-20) or square (DU-SBH-20) helm station display with integrated audible alarm, "Charged/Discharged" status lights, and manual override switch necessary for engine re-start. 12 or 24 VDC models are available.

ENGINE SHUTDOWN SYSTEM SELECTION CHART

MODEL NUMBER	PRODUCT DESCRIPTION	RELAY RATINGS			15 SECOND TIMER	HELM DISPLAY	
		2A	10A	30A		ROUND DU-RBH-20	SQUARE DU-SBH-20
Three Circuit Engine Shutdown Systems							
ES-3000-01	3 Circuit 12 VDC Engine Shutdown System		3			X	
ES-3000-02	3 Circuit 12 VDC Engine Shutdown System		3				X
ES-3000-01-24V	3 Circuit 12/24/32 VDC Engine Shutdown System		3			X	
ES-3000-02-24V	3 Circuit 12/24/32 VDC Engine Shutdown System		3				X
ELS-3510-02	3 Circuit 12/24/32 VDC Engine Shutdown System with 2-2A gold plated relays	2	1				X
Five Circuit Engine Shutdown Systems							
ES-5000-01	5 Circuit 12 VDC Engine Shutdown System		5			X	
ES-5000-02	5 Circuit 12 VDC Engine Shutdown System		5				X
ES-5000-01-24V	5 Circuit 12/24/32 VDC Engine Shutdown System		5			X	
ES-5015-02-24V	5 Circuit 12/24/32 VDC Engine Shutdown System with 15 second time delay		5		X		X
Six Circuit Engine Shutdown Systems with fused internal wiring connections and a water resistant display							
ESC-0604-04D	6 Circuit 12/24/32 VDC Engine Shutdown System	4		2			X
ESC-0622-04D	6 Circuit 12/24/32 VDC Engine Shutdown System	2	2	2			X
ESC-0640-04D	6 Circuit 12/24/32 VDC Engine Shutdown System		4	2			X
Eight Circuit Engine Shutdown Systems							
ES-8000-01	8 Circuit 12 VDC Engine Shutdown System		8			X	
ES-8000-02	8 Circuit 12 VDC Engine Shutdown System		8				X
ES-8015-02	8 Circuit 12 VDC Engine Shutdown System with 15 second time delay		8		X	X	
ES-8000-01-24V	8 Circuit 12/24/32 VDC Engine Shutdown System		8			X	
ES-8000-02-24V	8 Circuit 12/24/32 VDC Engine Shutdown System		8			X	
Eight Circuit Engine Shutdown Systems with fused internal wiring connections and a water resistant display							
ESC-0806-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	6		2			X
ESC-0824-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	4	2	2			X
ESC-0842-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	2	4	2			X
ESC-0860-04D	8 Circuit 12/24/32 VDC Engine Shutdown System		6	2			X
Ten Circuit Engine Shutdown Systems with fused internal wiring connections and a water resistant display							
ESC-1044-04D	10 Circuit 12/24/32 VDC Engine Shutdown System	4	4	2			X
ESC-1062-04D	10 Circuit 12/24/32 VDC Engine Shutdown System	2	6	2			X
ESC-1080-04D	10 Circuit 12/24/32 VDC Engine Shutdown System		8	2			X



DU-SBH-20:

Deluxe Helm Display, Membrane Switch, Remote Horn, LED Display, Square Only. Includes 3 ft cable.



DU-RBH-20:

Deluxe Helm Display with Gauge Body, LED and color graphics. Includes 3 ft cable.



DU-SBH-21:

Deluxe Helm Display, 2 Systems: Control Primary, Monitor Secondary. Remote Horn, LED Display, Square Only. Includes 3 ft cable.

FIREBOY - XINTEX
A Darley Company
fireboy-xintex.com



Fireboy-Xintex is ISO 9001 Certified QMS

Approvals & Certifications

All Fireboy CG2/MA2 models are approved by Factory Mutual, U.S.C.G., RINA (ISO 9094 (2015)) and are CE certified (B.V.)

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ON BOARD, ON GUARD

FIREBOY - XINTEX®

FIRE SUPPRESSION . FIRE DETECTION . GAS DETECTION



Fireboy-Xintex is an ISO 9001:2008 company

ON BOARD, ON GUARD

Fireboy-Xintex Inc., founded in Grand Rapids, Michigan in 1973, and Fireboy-Xintex Ltd., located in Poole, UK which opened in 2006, have innovated numerous safety products for the Recreational, Commercial and Military Marine Markets.

Our company's dedication to manufacturing the highest quality products has positioned us to be the supplier of choice for the majority of customers in the industries that we serve. Our Clean Agent Fire Suppression Systems meet FM, USCG, EPA, MCA, ISO 9094 and Worldwide Approvals. Our Carbon Monoxide and Gas Detectors are designed and manufactured to meet the regulatory standards demanded of this class of products.

This catalog represents our product offering to the Recreational Marine Market. All of our product lines are online at www.fireboy-xintex.com. You may also contact our sales team at either facility.

Our extensive product lines also include Fire Suppression and Fire Detection Systems for the Commercial Marine Market and our Xintex Methane Gas Detection Systems provide a solution for clean fuel vehicles in the Heavy Duty Truck and Bus Industry.

Our Grand Rapids, Michigan, USA and Poole, UK facilities include manufacturing, engineering, market research, sales and customer service departments. Fireboy-Xintex and Fireboy-Xintex Ltd. are ISO 9001-2008 Certified Companies. We test and inspect all products prior to shipping, guaranteeing our customers reliable and safe products. Our combined engineering teams are continuously designing and innovating new products to meet the ever changing market requirements.

When selecting Fireboy-Xintex, rest assured of the quality, integrity and service designed and manufactured into each product.

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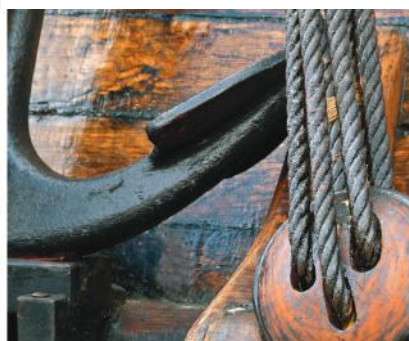
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FIREBOY - XINTEX
Marine Safety Systems



marine safety systems

FIRE SUPPRESSION	2	Overview
	3	System Selection
	4	CG2 Series
	5	MA2 Series
	6	GA Series
	8	Engine Shutdown Systems
FIRE DETECTION	10	FR Series, Recreational Boats
GAS DETECTION	11	Overview
	12	Carbon Monoxide
	14	Gasoline Line
	15	Propane Line
TANK MONITORS	17	Liquid Level Monitors



ON BOARD, ON GUARD

THE FIREBOY ADVANTAGE

TOTAL FLOODING, CLEAN AGENT FIRE EXTINGUISHER 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.

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.

[Constant Protection, No Harmful Residue]

- Discharge is automatic at 175°F (79°C) for round-the-clock engine room fire protection
- Many marine insurance providers offer a discount to boaters who install a fixed fire extinguisher system (contact your insurer for details)
- Total flooding of the engine compartment in less than 10 seconds for fast smothering of the fire
- Clean agent Halon substitute gas (HFC-227ea) leaves no harmful residue to clean up
- 3 year limited warranty
- All steel refillable cylinders (does not include systems discharged in a fire)
- Helm station LED charged/discharged status indicator panel included (see photo on page 3)
- Easy to read color coded pressure gauge on cylinder also identifies charged/discharged status
- Coverage from 25cu' to 3000cu' in a broad array of increments provides maximum coverage at lowest cost
- Integrated shelf bracket mounting system (see photo on page 3)
- Safety lockout design to minimize accidental discharge during installation and maintenance
- Rugged industrial designed pressure gauge insures trouble free performance
- International system approvals (FM, USCG, CE, RINA, BV)
- HFC-227ea (Heptafluoropropane) clean extinguishing agent is approved for marine use worldwide (EPA SNAP, European)
- Approved for Class B fires in engine rooms, machinery spaces and similar industrial applications



Approvals & Certifications

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



Selecting Your System

CG2 Series

- Automatic discharge only
- Engine rooms up to 1,000 cubic feet
- Vertical or horizontal mounting allowed
- HFC-227ea
- See page 4

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
- HFC-227ea
- See page 5

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 hosing allowing for a near simultaneous discharge of both cylinders
- Requires the installation of Manual Discharge Cables
- Vertical mounting only
- HFC-227ea only
- See pages 6 & 7

There are 3 Fireboy series available.

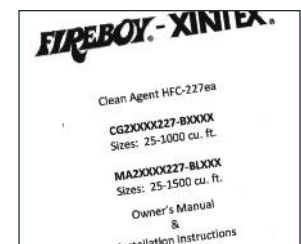
1. Choose either the MA2 or CG2 Series (see pages 6 and 7 for the GA Series).
2. Determine the volume of your engine compartment in cubic feet or cubic meters, L x W x H. For after-market installations, the gross volume MUST be used unless the boat manufacturer has attached a decal stating the volume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

Example: MA20200227-BL = 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 8.

Ready To Install

Each Fireboy system comes complete with a powder coated cold rolled steel shelf bracket system, status indicator light, and owner's manual.



series CG2

Designed for engine rooms and machinery spaces up to 1,000 cubic feet, this automatic discharge series comes ready for vertical or horizontal mounting.

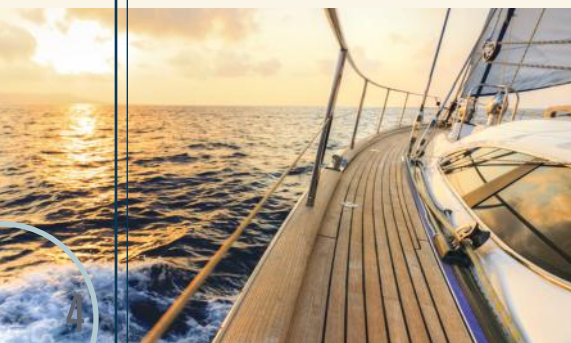
[CG2 Series Model Selection Chart]

MODEL NUMBER	VOLUME PROTECTED		DIAMETER		HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT	
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs
CG20025227-B	25	0.7	3.3	85	9.8	248	1.1	0.5	5	2.3
CG20050227-B	50	1.4	3.3	85	12.9	327	2.2	1.0	8	3.6
CG20075227-B	75	2.1	4.3	110	15.1	384	3.2	1.5	12	5.4
CG20100227-B	100	2.8	4.3	110	15.1	384	4.3	2.0	13	5.9
CG20125227-B	125	3.5	4.3	110	15.1	384	5.4	2.4	15	6.8
CG20150227-B	150	4.3	5.1	130	16.9	428	6.5	2.9	19	8.6
CG20175227-B	175	4.9	5.1	130	16.9	428	7.6	3.4	20	9.1
CG20200227-B	200	5.7	5.1	130	16.9	428	8.6	3.9	22	10.0
CG20225227-B	225	6.4	6.3	160	16.9	428	9.7	4.4	29	13.2
CG20250227-B	250	7.1	6.3	160	16.9	428	10.8	4.9	30	13.6
CG20275227-B	275	7.8	6.3	160	16.9	428	11.9	5.4	32	14.5
CG20300227-B	300	8.5	6.3	160	16.9	428	13.0	5.9	33	15.0
CG20325227-B	325	9.2	7.1	180	16.9	428	14.0	6.4	38	17.2
CG20350227-B	350	10.0	7.1	180	16.9	428	15.1	6.8	39	17.7
CG20375227-B	375	10.6	7.1	180	16.9	428	16.2	7.3	40	18.1
CG20400227-B	400	11.3	7.1	180	19.1	486	17.3	7.8	44	20.0
CG20450227-B	450	12.7	7.1	180	19.1	486	19.4	8.8	46	20.9
CG20500227-B	500	14.1	7.1	180	26.8	679	21.6	9.8	56	25.4
CG20550227-B	550	15.6	7.1	180	26.8	679	23.8	10.8	58	26.3
CG20600227-B	600	17.0	7.1	180	26.8	679	25.9	11.7	61	27.7
CG20650227-B	650	18.4	7.1	180	26.8	679	28.1	12.7	64	29.0
CG20700227-B	700	19.8	7.1	180	26.8	679	30.2	13.7	66	29.9
CG20750227-B	750	21.2	10.0	250	21.3	541	32.4	14.7	80	36.3
CG20800227-B	800	22.6	10.0	250	21.3	541	34.5	15.6	83	37.6
CG20850227-B	850	24.0	10.0	250	21.3	541	36.7	16.7	86	39.0
CG20900227-B	900	25.5	10.0	250	21.3	541	38.9	17.7	88	39.9
CG20950227-B	950	26.9	10.0	250	21.3	541	41.4	18.8	91	41.3
CG21000227-B	1000	28.3	10.0	250	21.3	541	43.2	19.6	93	42.2

Clean Agent Portable Fire Extinguishers



Our 5 and 11 pound portable extinguishers are both approved by the U.S.C.G. and UL Listed. Applied directly to engines, they will not damage the engine or components. They provide extinguish capabilities for fossil fuels and are effective on galley fires. Model 70551 is a 5 pound portable with a 5BC rating and includes a mounting bracket. Model 71100 is an 11 pound portable with a 1A10BC rating, mounting bracket 700228 sold separately. Two-year limited warranty.



series **MA2** Ideal for boats with engine rooms up to 1,500 cubic feet in size, this series has an automatic discharge feature with an optional manual discharge, when used with a Fireboy Manual Discharge Cable, which is sold separately. Vertical or horizontal mounting is allowed.

[MA2 Series Model Selection Chart]

MODEL NUMBER	VOLUME PROTECTED		DIAMETER		HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT	
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs
MA20025227-BL	25	0.7	3.3	85	9.8	248	1.1	0.5	5	2.3
MA20050227-BL	50	1.4	3.3	85	12.9	327	2.2	1.0	8	3.6
MA20075227-BL	75	2.1	4.3	110	15.1	384	3.2	1.5	13	5.8
MA20100227-BL	100	2.8	4.3	110	15.1	384	4.3	2.0	14	6.3
MA20125227-BL	125	3.5	4.3	110	15.1	384	5.4	2.4	15	6.8
MA20150227-BL	150	4.3	5.1	130	16.9	428	6.5	2.9	20	9.0
MA20175227-BL	175	4.9	5.1	130	16.9	428	7.6	3.4	21	9.5
MA20200227-BL	200	5.7	5.1	130	16.9	428	8.6	3.9	22	10.0
MA20225227-BL	225	6.4	6.3	160	16.9	428	9.7	4.4	30	13.5
MA20250227-BL	250	7.1	6.3	160	16.9	428	10.8	4.9	31	14.0
MA20275227-BL	275	7.8	6.3	160	16.9	428	11.9	5.4	32	14.5
MA20300227-BL	300	8.5	6.3	160	16.9	428	13.0	5.9	33	15.0
MA20325227-BL	325	9.2	7.1	180	16.9	428	14.0	6.4	38	17.1
MA20350227-BL	350	10.0	7.1	180	16.9	428	15.1	6.8	39	17.6
MA20375227-BL	375	10.6	7.1	180	16.9	428	16.2	7.3	40	18.1
MA20400227-BL	400	11.3	7.1	180	19.1	486	17.3	7.8	44	19.9
MA20450227-BL	450	12.7	7.1	180	19.1	486	19.4	8.8	46	20.9
MA20500227-BL	500	14.1	7.1	180	26.8	679	21.6	9.8	56	25.4
MA20550227-BL	550	15.6	7.1	180	26.8	679	23.8	10.8	58	26.3
MA20600227-BL	600	17.0	7.1	180	26.8	679	25.9	11.7	61	27.7
MA20650227-BL	650	18.4	7.1	180	26.8	679	28.1	12.7	64	29.0
MA20700227-BL	700	19.8	7.1	180	26.8	679	30.2	13.7	66	29.9
MA20750227-BL	750	21.2	10.0	250	21.3	541	32.4	14.7	80	36.3
MA20800227-BL	800	22.6	10.0	250	21.3	541	34.5	15.6	83	37.6
MA20850227-BL	850	24.0	10.0	250	21.3	541	36.7	16.7	86	39.0
MA20900227-BL	900	25.5	10.0	250	21.3	541	38.9	17.7	88	39.9
MA20950227-BL	950	26.9	10.0	250	21.3	541	41.0	18.6	91	41.3
MA21000227-BL	1000	28.3	10.0	250	21.3	541	43.2	19.6	93	42.2
MA21050227-BL	1050	29.7	10.0	250	21.3	541	45.3	20.5	96	43.5
MA21100227-BL	1100	31.1	10.0	250	21.3	541	47.5	21.5	99	44.9
MA21150227-BL	1150	33.0	10.0	250	27.5	699	49.7	22.5	108	49.0
MA21200227-BL	1200	34.0	10.0	250	27.5	699	51.8	23.5	111	50.3
MA21250227-BL	1250	35.4	10.0	250	27.5	699	54.0	24.5	113	51.3
MA21300227-BL	1300	36.8	10.0	250	27.5	699	56.1	25.4	116	52.6
MA21350227-BL	1350	38.2	10.0	250	27.5	699	58.3	26.4	119	54.0
MA21400227-BL	1400	39.6	10.0	250	27.5	699	60.5	27.4	121	54.9
MA21450227-BL	1450	41.0	10.0	250	27.5	699	62.6	28.4	124	56.2
MA21500227-BL	1500	42.5	10.0	250	27.5	699	64.8	29.4	126	57.2

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

All lengths are represented in feet.
*Special Order: Allow 6 weeks for delivery.

series **GA** The Fireboy GA Series is a patented, pre-engineered total-flooding fire extinguishing system designed to protect larger boats with engine rooms from 1,501 cubic feet (42.5 cubic meters) to 3,000 cubic feet (85 cubic meters). Each system requires 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 1/4" stainless steel 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 is left behind. The GA Series is approved by the U.S.C.G. up to 2000 cu' on inspected vessels and up to 3000 cu' on recreational craft. Factory Mutual, RINA, Bureau Veritas and CE certified.

Description of Components



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 pages 8 and 9 for specifications.



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 system. The flexibility of the GA Link allows for easier installation of the system. No complex piping is required as with many engineered fire suppression systems. Sold separately.



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 and our quick connect couplings ease all installations.



Discharge Manifold

Includes a patented safety-lock poppet valve that prevents accidental discharge during installation and shipping. All extinguishant dispersed 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.



High-Temperature Manual Discharge Cables

Fireboy High-Temperature Manual Discharge Cables are fire-resistant and are required for all GA Series installations. See page 7 for model chart. Sold separately.

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.



[The GA Series Advantage]

- 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 feature prevents accidental discharge during shipping and installation
- No third-party certification required; certification is done directly with Fireboy, eliminating inspection costs and minimizing down-time
- Four temperature sensors throughout the engine room provide ample ambient temperature monitoring
- The first pre-engineered fire extinguisher system protecting up to 3000 cu' approved by the USCG for recreational craft and up to 2000 cu' on inspected vessels

GA Series Model Selection Chart

MODEL NUMBER	VOLUME PROTECTED		NUMBER OF CYLINDERS	DIAMETER		TOTAL HEIGHT		AGENT WEIGHT PER CYLINDER		GROSS WEIGHT PER CYLINDER	
	ft ³	m ³		in	cm	in	cm	lbs	kgs	lbs.	kgs.
GA-1600-227-SB	1600	45.3	2	10	25	26.2	1.1	34.6	15.7	68.8	31.3
GA-1700-227-SB	1700	48.2	2	10	25	26.2	2.2	36.7	16.7	70.9	32.2
GA-1800-227-SB	1800	51.0	2	10	25	26.2	3.2	38.9	17.7	73.1	33.2
GA-1900-227-SB	1900	53.8	2	10	25	26.2	4.3	41.0	18.7	75.2	34.2
GA-2000-227-SB	2000	56.7	2	10	25	26.2	5.4	43.2	19.6	77.4	35.2
GA-2100-227-SB	2100	60.2	2	10	25	32.4	6.5	45.4	20.6	85.9	39.1
GA-2200-227-SB	2200	62.3	2	10	25	32.4	7.6	47.5	21.6	88.1	40.0
GA-2300-227-SB	2300	65.2	2	10	25	32.4	8.6	49.7	22.6	90.2	41.0
GA-2400-227-SB	2400	68.0	2	10	25	32.4	9.7	51.8	23.6	92.4	42.0
GA-2500-227-SB	2500	70.8	2	10	25	32.4	10.8	54.0	24.5	94.6	43.0
GA-2600-227-SB	2600	73.7	2	10	25	32.4	11.9	56.2	25.5	96.7	44.0
GA-2700-227-SB	2700	76.5	2	10	25	32.4	13.0	58.3	26.5	98.9	45.0
GA-2800-227-SB	2800	79.3	2	10	25	32.4	14.0	60.5	27.5	101.0	45.9
GA-2900-227-SB	2900	82.2	2	10	25	32.4	15.1	62.6	28.5	103.2	46.9
GA-3000-227-SB	3000	85.0	2	10	25	32.4	16.2	64.8	29.5	105.4	47.9



Extinguisher Accessories



Dual Release Adapter
Allows manual discharge of an MA2 or GA from 2 separate locations. Requires 2 Manual Discharge Cables. DRA-1001-01 includes 6' of cable, DRA-1001-02 includes 20' of cable, which should be taken into consideration when measuring for dual installations.



90107 Fire System Status Indicator Panel
2" panel with LED light that provides constant monitoring of the system to comply with U.S.C.G. requirements for system approval. Included with CG2, MA2, & GA systems. Adhesive back for easy mounting.



Cable Angle Adapter
CAA-0285-01
Used with Fireboy Manual Discharge Cables when space limitations or owner preference call for an angled pull-out. Stainless steel.



Discharge Alarm
With an integrated alarm horn for a single instrument installation. Includes "Test" button with waterproof boot and a lamp that illuminates when system is discharged. Model DA-1001-011 (round), DA-1001-021 (square, shown.)

[Engine Shutdown Systems: Required for Diesel Engines]

Compressed gas suppressants such as HFC-227ea will not stall a diesel engine. If a 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.



ESC SERIES

Featuring an ISO 54 enclosure, internal terminals, heyco wire connectors, and a see-through cover to easily observe the circuit board mounted L.E.D.s, which indicate circuit board and Fireboy extinguisher status, or that a fault condition exists. Non-energized relays. A combination of models including 6, 8, and 10 circuits. Select from a combination of relays; 30 amp (operating range 100mA to 30 amp), 10amp (operating range 100mA to 10 amp) and 2 amp gold plated relays (operating range 10uA to 2 amps.)

All ESC models operate on multi-voltage 12/24/32 VDC

All models come with a square, water resistant membrane touch switch featuring dimmable L.E.D.s for the helm station with override function.

Note: The display unit in these systems replaces the lamp and escutcheon plate provided with each Fireboy pre-engineered extinguisher system.



ELS SERIES

Developed to address low current, electronically controlled engines. Featuring sealed relays with gold-plated contacts and guaranteed to operate in all electronic engine applications. Engine circuit relays feature an operating range of 10uA 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. ELS models are 12/24/32 VDC compatible with a round or square display.



ES SERIES

3 model series are available for shutting down up to 8 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 delay for GM diesels. Each system comes with a 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.



Replacement Engine Shutdown Display

A replacement 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. Round: DU-1002-01D; square: DU-1002-02D



Wire Harness for Helm Station Display

For all engine shutdown systems, this 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. 30': B-2174-30; 10': B-2174-10



DU1004-02D-RH

Second Station Display, Membrane Switch, Remote Horn. LED Display, Square Only



DU1005-02D-RH

Second Station Display, 2 station, Remote Horn. LED Display, Square Only

[Engine Shutdown System Selection Chart]

MODEL NUMBER	PRODUCT DESCRIPTION	RELAY RATINGS			15 SECOND TIMER	HELM DISPLAY	
		2A	10A	30A		ROUND	SQUARE
Three Circuit Engine Shutdown Systems							
ES-3000-01	3 Circuit 12 VDC Engine Shutdown System		3			x	
ES-3000-02	3 Circuit 12 VDC Engine Shutdown System		3				x
ES-3000-30S	3 Circuit 12 VDC Engine Shutdown System with 1-30A relay		2	1		x	
ES-3000-V	3 Circuit 12 VDC Engine Shutdown System - Volvo		3			x	
ES-3000-01-24V	3 Circuit 12/24/32 VDC Engine Shutdown System		3			x	
ES-3000-02-24V	3 Circuit 12/24/32 VDC Engine Shutdown System		3				x
ELS-3510-01	3 Circuit 12/24/32 VDC Engine Shutdown System with 2-2A gold plated relays	2	1			x	
ELS-3510-02	3 Circuit 12/24/32 VDC Engine Shutdown System with 2-2A gold plated relays	2	1				x
Five Circuit Engine Shutdown Systems							
ES-5000-01	5 Circuit 12 VDC Engine Shutdown System		5			x	
ES-5015-01	5 Circuit 12 VDC Engine Shutdown System with 15 second time delay		5		x	x	
ES-5000-02	5 Circuit 12 VDC Engine Shutdown System		5				x
ES-5015-02	5 Circuit 12 VDC Engine Shutdown System with 15 second time delay		5		x		x
ES-5000-V	5 Circuit 12 VDC Engine Shutdown System - Volvo		5			x	
ES-5000-30P	5 Circuit 12/24/32 VDC Engine Shutdown System with 1-30A relay		4	1		x	
ES-5000-30S	5 Circuit 12/24/32 VDC Engine Shutdown System with 2-30A relays		3	2		x	
ES-5000-01-24V	5 Circuit 12/24/32 VDC Engine Shutdown System		5			x	
ES-5015-01-24V	5 Circuit 12/24/32 VDC Engine Shutdown System with 15 second time delay		5		x	x	
ES-5000-02-24V	5 Circuit 12/24/32 VDC Engine Shutdown System		5				x
ES-5015-02-24V	5 Circuit 12/24/32 VDC Engine Shutdown System with 15 second time delay		5		x		x
ES-5000-01-24V-30S	5 Circuit 12/24/32 VDC Engine Shutdown System with 2-30A relay		3	2		x	
ES-5000-30P-24V	5 Circuit 12/24/32 VDC Engine Shutdown System with 1-30A relay		4	1		x	
ELS-5510-01	5 Circuit 12/24/32 VDC Engine Shutdown System with 2-2A gold plated relays	2	3			x	
ELS-5510-02	5 Circuit 12/24/32 VDC Engine Shutdown System with 2-2A gold plated relays	2	3				x
Six Circuit Engine Shutdown Systems with internal wiring connections and a water resistant display							
ESC-0604-04D	6 Circuit 12/24/32 VDC Engine Shutdown System	4		2			x
ESC-0622-04D	6 Circuit 12/24/32 VDC Engine Shutdown System	2	2	2			x
ESC-0640-04D	6 Circuit 12/24/32 VDC Engine Shutdown System		4	2			x
Eight Circuit Engine Shutdown Systems							
ES-8000-01	8 Circuit 12 VDC Engine Shutdown System		8			x	
ES-8000-02	8 Circuit 12 VDC Engine Shutdown System		8				x
ES-8015-01	8 Circuit 12 VDC Engine Shutdown System with 15 second time delay		8		x	x	
ES-8015-02	8 Circuit 12 VDC Engine Shutdown System with 15 second time delay		8		x		x
ES-8000-30S	8 Circuit 12 VDC Engine Shutdown System with 2-30A relays		6	2		x	
ES-8000-02-30S	8 Circuit 12 VDC Engine Shutdown System with 2-30A relays		6	2			x
ES-8000-01-24V	8 Circuit 12/24/32 VDC Engine Shutdown System		8			x	
ES-8015-01-24V	8 Circuit 12/24/32 VDC Engine Shutdown System with 15 second time delay		8		x	x	
ES-8000-02-24V	8 Circuit 12/24/32 VDC Engine Shutdown System		8				x
ES-8015-02-24V	8 Circuit 12/24/32 VDC Engine Shutdown System with 15 second time delay		8		x		x
ES-8000-01-24V-30S	8 Circuit 12/24/32 VDC Engine Shutdown System with 2-30A relays		6	2		x	
ELS-8510-01	8 Circuit 12/24/32 VDC Engine Shutdown System	2	6			x	
ELS-8510-02	8 Circuit 12/24/32 VDC Engine Shutdown System	2	6				x
Eight Circuit Engine Shutdown Systems with internal wiring connections and a water resistant display							
ESC-0806-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	6		2			x
ESC-0824-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	4	2	2			x
ESC-0824-04D	8 Circuit 12/24/32 VDC Engine Shutdown System	2	4	2			x
ESC-0860-04D	8 Circuit 12/24/32 VDC Engine Shutdown System		6	2			x
Ten Circuit Engine Shutdown Systems with internal wiring connections and a water resistant display							
ESC-1044-04D	10 Circuit 12/24/32 VDC Engine Shutdown System	4	4	2			x
ESC-1062-04D	10 Circuit 12/24/32 VDC Engine Shutdown System	2	6	2			x
ESC-1080-04D	10 Circuit 12/24/32 VDC Engine Shutdown System		8	2			x

ALWAYS ON GUARD

FIRE DETECTION SYSTEM

MONITOR ENGINE ROOM & ACCOMMODATION AREAS



The Fireboy-Xintex Fire Detection System provides an intelligent networked solution for the monitoring of 1, 2, 4, or 8 zones. Easy installation, does not require extensive set up or programming. The system consists of a monitor panel and up to 14 smoke or heat detectors per zone for a 12VDC system, or 8 detectors on a 24 VDC system, and/or rate of rise heat detectors connected to each zone (sold separately.)

Monitor Display



FR-1000 (1 zone)

- No extensive programming
- Networked monitoring of 1 or 2 zones
- Stylish Water Resistant Display
- 2 5/8" Panel
- Visual indication from one location
- 85dB audible indication of fire or fault
- Installation diameter is 2 1/18"
- Up to 14 smoke or heat detectors per zone (12vdc)
- Up to 8 smoke or heat detectors per zone (24vdc)
- Detectors sold separately (see below)
- Bases sold separately (see below)
- FR-100 input module NOT compatible



FR-2000 (2 zone)



FR-4000 (4 zone)

- Programmable Networked Solution
- Communicates via 2 wire cable up to 3200 feet (not included)
- Networked monitoring of 4 to 8 zones
- Stylish Water Resistant Display
- Isolate any zone by name (Engine Room, Galley, etc.)
- Visual indication from one location
- 85 dB audible indication of fire or fault
- Combination of 14 smoke or heat detectors per zone (12vdc)
- Combination of 8 smoke or heat detectors per zone (24vdc)
- Detectors sold separately (see below)
- Bases sold separately (see below)
- FR-100 input module included



FR-8000 (8 zone)

Detectors & Bases



AP65-PESD-02

- Smoke Detector
- Photoelectric
- Hard wired
- 12/24vdc



AP65-HD170-02

- Heat Detector
- 170 degrees F
- Hard wired
- 12/24vdc



AP65-TB-01*

- Standard 4" Base
- Detector locking
- One way fit

**Optional sounder base
AP65-SB-01*

FR-100 Input Module



- Compatible w/FR4000, FR8000 Only
- Interface between sensors and display
- Up to 8 separate zones
- 2 Output Relays
- 10A resistive @ 24vdc
- Relay 1 & 2 open on Fire Detection
- Relay 1 & 2 close when alarm is muted
- 6"W x 3.5"H x 1.5"D

THE FIREBOY-XINTEX

GAS DETECTION COLLECTION

CARBON MONOXIDE . GASOLINE . PROPANE



Fireboy-Xintex, an ISO9001-2008 company offers a comprehensive line of Gas Detection products and accessories. Designed in-house by our team of engineers, these products cover a wide range of marine,

transportation and commercial applications. Fireboy-Xintex provides application-specific sensors and monitors that will safely detect carbon monoxide, gasoline, or propane fumes before they reach the hazardous stage.





CO

Carbon Monoxide

the silent killer

Carbon monoxide (CO) is produced wherever fossil fuel 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 hrs.

400 PPM: Frontal headache within 1-2 hrs.

800 PPM: Dizziness, nausea and convulsions within 45 min. Insensible within 2 hrs.

1600 PPM: Headache, dizziness, nausea within 20 min. Death within 30 min.

3200 PPM: Headache, dizziness and nausea in 5-10 min. Death within 30 min.

6400 PPM: Headache and dizziness in 1-2 min.

12800 PPM: Death in less than 3 min.

Protect What's Important

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.

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

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.



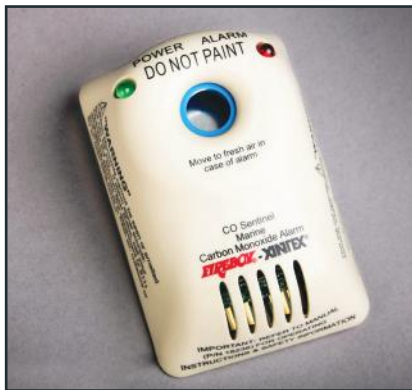
Accommodation spaces indicated are galley, aft cabin, and v-berth.



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.



SS-770 Smoke & Fire Alarm



The SS-770 is a 9V (battery included) general purpose smoke and fire alarm for use on boats and RVs. 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: SS-770
- Dimensions: 4.25" Diameter, 1.25" H
- Warranty: 1-Year Limited Warranty
- Voltage: 9V
- Alarm dB: 85 dB
- Listing: UL 217 for RVs

Gasoline Fume Detection

always on



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 90 dB alarm will sound when 18-20% LEL gasoline fumes are detected. Comes complete with one MS-2 sensor with 20' of lead cable. Available standard in black.



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 75 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 75 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".

gas & propane ACCESSORIES



MS-2 Sensor

Detects propane/LPG, CNG, gas fumes. Quick-disconnect cable for easy installation and maintenance. Lead from the sensor is 12", additional 20' cable included. Longer sensor cables available from 25' to 100'. Sensor to be mounted near 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.



RH-1 Remote Horn

This 95 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.

Marine Propane Detection

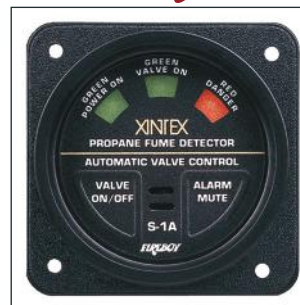
a complete system



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). 75 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 90 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

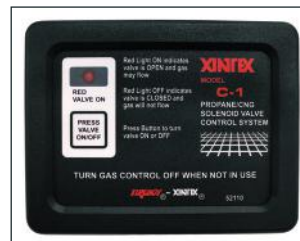
LED indicates normal operation mode when the power is on. Includes one MS-2 sensor and SV-1 solenoid valve. 12 VDC operation. Display size is 2" x 2" x 7/8".



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 90 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".



MS-2 Sensor

Detects propane/LPG, CNG, gas fumes. Quick-disconnect cable for easy installation and maintenance. Lead from the sensor is 12", additional 20' cable included. Longer sensor cables available from 25' to 100'. Sensor to be mounted near ground for propane/LPG installations. Compatible with current model Xintex fume detectors only.



Solenoid Valves

Operates on 12 VDC. Opens/closes flow of propane when powered. Automatically closes with low or no current for added safety.

SV-1 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 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.



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.

Regulators



PR-5414 Single Stage Wall-Mount
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
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
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

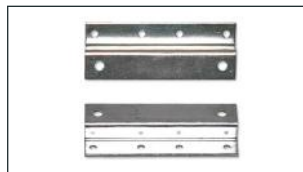
selector switch. Two 1/4" inverted female flare inlets, one 3/8" FPT outlet. Die cast zinc body is UL Listed. Meets ABYC Standards.

Regulator Accessories



Assembled Supply Hoses
High pressure, thermoplastic supply hose rated at 350 psi working pressure. 3/8" female brass swivel flares at each end.

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



PF-5440 Regulator Mounting Brackets
Two stainless-steel regulator mounting brackets when relocating a regulator.



PF-5441 Regulator Cover
Protects LPG regulators from corrosion and adverse conditions. Made of white PVC. (white)

Regulator to Tank Hoses



PA-5426A 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

PA-5422 20" Pigtail Hose for Type I Cylinders. Connects wall mount regulator to cylinder. QCC nut hand tightens to cylinder with a 1/4" male inverted flare that attaches to the regulator.

PA-5426 20" connects wall mount regulator to LPG cylinder. Male POL x 1/4" male inverted flare.

PA-5437 20" connects tank-style mount regulators to LPG cylinder. Male POL x female POL.

PA-5416 6' Hi-pressure hose - connects both refillable and disposable LPG cylinder to appliances. Hand wheel POL attached to cylinder x 1" x 20 male swivel fitting to fit to appliance.

Propane System Accessories



PF-5433 Low Pressure Gas Grill Connection Kit

Converts a gas grill from a disposable bottle to a refillable LPG cylinder when used with a low pressure control valve at the grill. (Consult grill manufacturer). Tee fittings are male 3/8" .



Vapor Tight Thru Fittings

Meets ABYC Standards for a vapor tight seal. Constructed of nylon.

PA-5428 3/8" hose maximum outside diameter

PA-5427 5/8" hose maximum outside diameter



PA-5425 Disposable Cylinder Adapter

Connects a disposable propane bottle to a regulator or pigtail hose. 1"-20 x female POL receptacle.

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

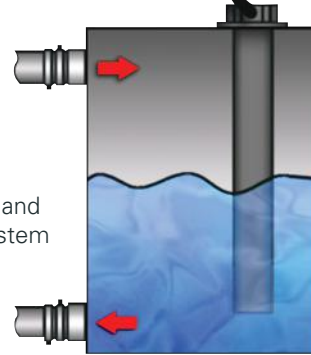
- E. PF-5442 90° Elbow, 3/8" Male Flare x 1/4" Male NPT
- F. PF-5443 3/8" Male NPT x 1/4" Male NPT
- G. PF-5444 3/8" Male NPT Nipple
- H. PF-5446 3/8" Male Flare x 1/4" Female NPT

[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
- 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
- Not affected by atmospheric changes
- Two-wire sender connection



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.

Here's an example: You would use the PTS-12 model for a 12" Threaded Sender and the PFS-14 model for a 14" Flanged Sender.

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

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

RELAX...

Fireboy's on board

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GA Series

Clean Agent Fire Suppression Systems

3M™ Novec™ 1230 Fire Protection Fluid or HFC-227ea



FIREBOY automatic fire suppression system benefits:

- ▶ Often detects and suppresses a fire before you know
- ▶ Automatic or manual operation
- ▶ Peace of mind

3M™ NOVEC™ 1230 FIRE PROTECTION FLUID

- ▶ Class B fire coverage from 600 - 4,000 ft.³ for engine rooms, machinery spaces, and other enclosed spaces for Class B fires
- ▶ Factory Mutual / USCG / CE / RINA / BV approved
- ▶ Low Global Warming Potential (GWP <1)
- ▶ Low toxicity in properly designed system
- ▶ No damage to sensitive equipment
- ▶ Not targeted for emission reduction or phase-out
- ▶ 3M™ Blue Sky™ warranty - 20 year protection against environmental regulation



HFC-227ea CLEAN AGENT

- ▶ Class B fire coverage from 600 - 3,000 ft.³ for engine rooms, machinery spaces, and other enclosed spaces for Class B fires
- ▶ Factory Mutual / USCG / CE / RINA / BV approved
- ▶ Low toxicity in properly designed system
- ▶ No damage to sensitive equipment

SAFETY

FIREBOY - XINTEX®
A Darley Company



FIREBOY-XINTEX.COM
Grand Rapids, Michigan / Poole, England



SAFETY IS OUR BUSINESS!

GA PRE-ENGINEERED SERIES ADVANTAGES

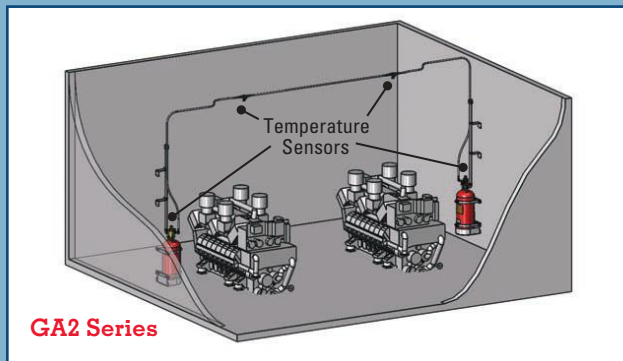
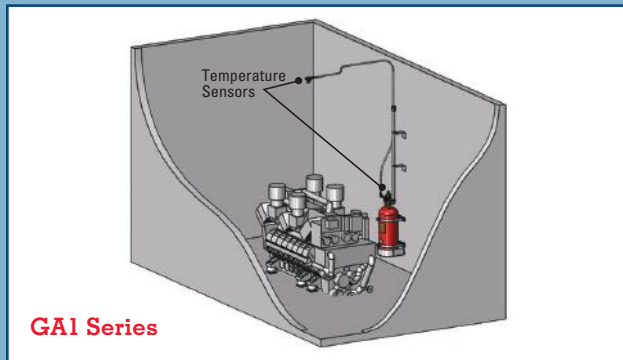
- ▶ Simplified installation compared to engineered systems
- ▶ System can be installed inside or outside the protected space
- ▶ Cylinder can be mounted close to the floor (2 in. minimum) with piped nozzle within 24 in. of ceiling
- ▶ Near-simultaneous release of both cylinders
- ▶ Less costly than engineered systems
- ▶ System approvals available electronically and eliminates traditional on-site inspections
- ▶ All system components backed by the Fireboy-Xintex 3 year limited warranty against leaks and defects in materials and workmanship
- ▶ Heavy-duty bracket required for USCG approval



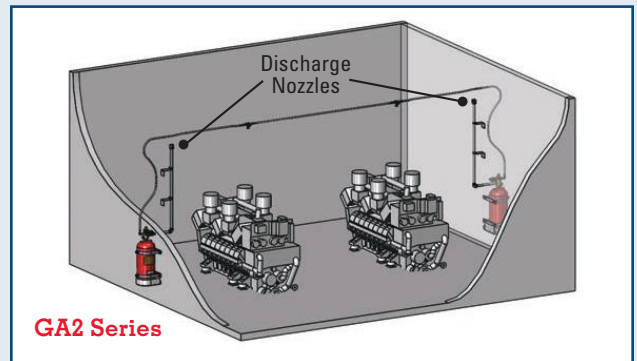
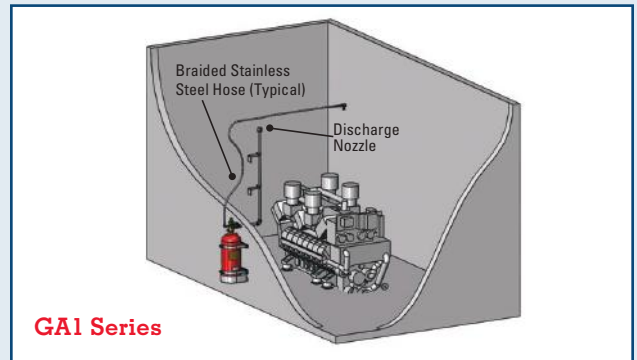
- ▶ Patented safety lockout design prevents costly accidental discharge and injury during installation or service

GA1 & GA2 APPROVED INSTALLATIONS

CYLINDERS LOCATED INSIDE OF THE PROTECTED SPACE



CYLINDERS LOCATED OUTSIDE OF THE PROTECTED SPACE



APPROVED INSTALLATIONS FOR USCG INSPECTED VESSELS UP TO 2,000 ft³ ONLY



GA SERIES SYSTEM COMPONENTS



GA LINK FEATURES

- ▶ Quick disconnect with double check valve for ease of installation (fig. A)
- ▶ Pressure gauge located at each sensor block
- ▶ Connections with up to 3 hoses and 2 sensors
- ▶ Stainless steel braided hose (40 ft. maximum length)
- ▶ GA1 - 1 or 2 sensors on ceiling
- ▶ GA2 - 2 sensors on ceiling



HEAVY-DUTY EXTINGUISHER BRACKET

- ▶ Shelf design for ease of installation and maintenance
- ▶ Required for USCG approval
- ▶ 2 or 3 clamps depending on cylinder size



WARNING: Diesel engines also require the installation of a Fireboy Engine Shutdown System.



PIPE KITS INCLUDE:

- ▶ Pipe mounting brackets & nozzles
- ▶ Optional pipe kit available with included piping for installation
- ▶ Available in black, galvanized or stainless steel



MANUAL DISCHARGE PULL CABLE WITH OPTIONAL PULL CABLE ANGLE ADAPTER



MANUAL PULL STATIONS FOR INSPECTED VESSELS SURFACE OR FLUSH MOUNT AVAILABLE



ESC SERIES ENGINE SHUTDOWN WITH HELM DISPLAY



ENGINE SHUTDOWN HELM DISPLAY



HIGH-TEMP DISCHARGE PULL CABLE



HORN STROBE FOR INSPECTED VESSELS

ON BOARD, ON GUARD!



THE FIREBOY ADVANTAGE

TOTAL FLOODING, CLEAN AGENT FIRE EXTINGUISHER SYSTEMS

U.S. Coast Guard studies show that approximately 90% of marine fires start in the engine compartment, and that only one in ten of those fires is successfully extinguished with dry-chemical portable fire extinguishers. Dry-chemical fire extinguishers also leave behind a powder that can damage the engine and other electronic equipment.

Since the introduction of Halon systems in the early 1970's, Fireboy has designed safe and effective clean agent engine room fire

protection with no water or powdery residue. All systems are heat-activated to automatically discharge the clean agent with no operator required. With a Fireboy system, the fire extinguishing agent is released much faster than any crew response, resulting in a faster fire-out time and less damage.

CONSTANT PROTECTION, NO HARMFUL RESIDUE

- ▶ Automatic discharge at 175° F (79° C), or optional 155° F (68° C), for constant engine room protection
- ▶ Many marine insurance providers offer discounts to boaters who install a fixed extinguisher system (contact your insurer for details)
- ▶ Total discharge of agent in less than 10 seconds
- ▶ 3M™ Novec™ 1230 fire protection fluid and HFC-227ea leave no harmful residue
- ▶ 3-year limited warranty
- ▶ All steel refillable cylinders (except systems discharged in a fire)
- ▶ Helm display LED and simple color-coded pressure gauge on cylinder "charged/discharged" status indicator
- ▶ Fireboy-Xintex offers products with coverage from 25 ft.³ to 17,500 ft.³ in order to provide maximum protection
- ▶ Integrated shelf bracket mounting system (required for USCG approval) (see photo on page 3)
- ▶ Patented Safety lockout design to minimize accidental discharge
- ▶ Premium quality pressure gauge ensures reliable performance
- ▶ Factory Mutual / USCG / CE / RINA / BV approved
- ▶ 3M™ Novec™ 1230 fire protection fluid and HFC-227ea approved for marine use worldwide (EPA SNAP European)
- ▶ Approved Class B fire in engine rooms, machinery spaces, and other similar industrial applications

Download the 3M™ Novec™ and HFC-227ea worksheets:
<http://www.fireboy-xintex.com/ga-fire-extinguisher>

FIREBOY - XINTEX
A Darley Company



Fireboy-Xintex
is ISO 9001
Certified QMS

Approvals & Certifications

All Fireboy GA models are approved by Factory Mutual, U.S.C.G., RINA (ISO 9094 (2015)) and are CE certified (BV)

FIREBOY-XINTEX.COM



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Dorset BH166LT / United Kingdom

GA SERIES MODEL SELECTION CHART CLEAN AGENT HFC-227ea

HFC-227ea (Heptafluoropropane) is a clean agent and leaves no residue when used. Specifications are for one (1) cylinder. Double the agent amount and shipping weight for GA2 two (2) cylinder system.

GA1 MODEL SELECTION CHART / 600 - 1,500 FT.³ / SINGLE CYLINDER SYSTEM

GA1 MODEL NUMBER	VOLUME PROTECTED		DIAMETER		TOTAL HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT		SYSTEM PRESSURE
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs	psi (@70° F)
GA10600227-B	600	17.0	10	254	27.1	689	25.9	11.8	64	29.0	360
GA10650227-B	650	18.4	10	254	27.1	689	28.1	12.8	66	29.9	360
GA10700227-B	700	19.8	10	254	27.1	689	30.2	13.7	68	30.8	360
GA10750227-B	750	21.2	10	254	27.1	689	32.4	14.7	70	31.8	360
GA10800227-B	800	22.6	10	254	27.1	689	34.5	15.6	73	33.1	360
GA10850227-B	850	24.0	10	254	27.1	689	36.7	16.7	75	34.0	360
GA10900227-B	900	25.5	10	254	27.1	689	38.9	17.7	77	34.9	360
GA10950227-B	950	26.9	10	254	27.1	689	41.0	18.7	79	35.8	360
GA11000227-B	1,000	28.3	10	254	27.1	689	43.2	19.6	81	36.7	360
GA11050227-B	1,050	29.7	10	254	27.1	689	45.3	20.5	83	37.7	360
GA11100227-B	1,100	31.1	10	254	27.1	689	47.5	21.6	86	39.0	360
GA11150227-B	1,150	33.0	10	254	33.3	846	49.7	22.6	88	39.9	360
GA11200227-B	1,200	34.0	10	254	33.3	846	51.8	23.6	90	40.8	360
GA11250227-B	1,250	35.4	10	254	33.3	846	54.0	24.5	92	41.7	360
GA11300227-B	1,300	36.8	10	254	33.3	846	56.1	25.4	94	42.6	360
GA11350227-B	1,350	38.2	10	254	33.3	846	58.3	26.5	96	43.6	360
GA11400227-B	1,400	39.6	10	254	33.3	846	60.5	27.5	99	44.9	360
GA11450227-B	1,450	41.0	10	254	33.3	846	62.6	28.5	101	45.8	360
GA11500227-B	1,500	42.5	10	254	33.3	846	64.8	29.5	103	46.7	360

GA2 MODEL SELECTION CHART / 1,200 - 3,000 FT.³ / TWO CYLINDER SYSTEM

GA2 MODEL NUMBER	VOLUME PROTECTED		DIAMETER		TOTAL HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT		SYSTEM PRESSURE
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs	psi (@70° F)
GA21200227-B	1,200	34.0	10	254	27.1	689	25.9	11.8	64	29.0	360
GA21300227-B	1,300	36.8	10	254	27.1	689	28.1	12.8	66	29.9	360
GA21400227-B	1,400	39.6	10	254	27.1	689	30.2	13.7	68	30.8	360
GA21500227-B	1,500	42.5	10	254	27.1	689	32.4	14.7	70	31.8	360
GA21600227-B	1,600	45.3	10	254	27.1	689	34.5	15.6	73	33.1	360
GA21700227-B	1,700	48.1	10	254	27.1	689	36.7	16.7	75	34.0	360
GA21800227-B	1,800	51.0	10	254	27.1	689	38.9	17.7	77	34.9	360
GA21900227-B	1,900	53.8	10	254	27.1	689	41.0	18.7	79	35.8	360
GA22000227-B	2,000	56.6	10	254	27.1	689	43.2	19.6	81	36.7	360
GA22100227-B	2,100	59.5	10	254	27.1	689	45.3	20.5	83	37.7	360
GA22200227-B	2,200	62.3	10	254	27.1	689	47.5	21.6	86	39.0	360
GA22300227-B	2,300	65.1	10	254	33.3	846	49.7	22.6	88	39.9	360
GA22400227-B	2,400	68.0	10	254	33.3	846	51.8	23.6	90	40.8	360
GA22500227-B	2,500	70.8	10	254	33.3	846	54.0	24.5	92	41.7	360
GA22600227-B	2,600	73.6	10	254	33.3	846	56.1	25.4	94	42.6	360
GA22700227-B	2,700	76.5	10	254	33.3	846	58.3	26.5	96	43.6	360
GA22800227-B	2,800	79.3	10	254	33.3	846	60.5	27.5	99	44.9	360
GA22900227-B	2,900	82.0	10	254	33.3	846	62.6	28.5	101	45.8	360
GA23000227-B	3,000	85.0	10	254	33.3	846	64.8	29.5	103	46.7	360

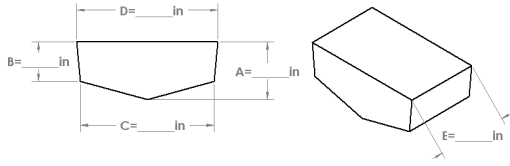
TYPICAL WORKSHEET

GA1 & GA2 HFC-227ea GROSS ENGINE ROOM VOLUME WORKSHEET

Fireboy-Xintex will certify the volume of the engine room from manufacturer CAD drawing including volume calculations, or from a completed Engine Room Volume Worksheet

$$\frac{\quad}{A} \text{ in.} + \frac{\quad}{B} \text{ in.} = \frac{\quad}{2} \text{ in.} = \frac{\quad}{C} \text{ in.} \times \frac{\quad}{\quad} \text{ in.} = \frac{\quad}{\quad} \text{ in.}^2$$

$$\frac{\quad}{D} \text{ in.} - \frac{\quad}{C} \text{ in.} = \frac{\quad}{2} \text{ in.} = \frac{\quad}{B} \text{ in.} \times \frac{\quad}{\quad} \text{ in.} = + \frac{\quad}{\quad} \text{ in.}^2$$



$$\times \frac{\quad}{E} \text{ in.}$$

$$\frac{\quad}{\quad} \text{ in.}^3$$

$$\text{Additional Volume(s)} + \frac{\quad}{\quad} \text{ in.}^3$$

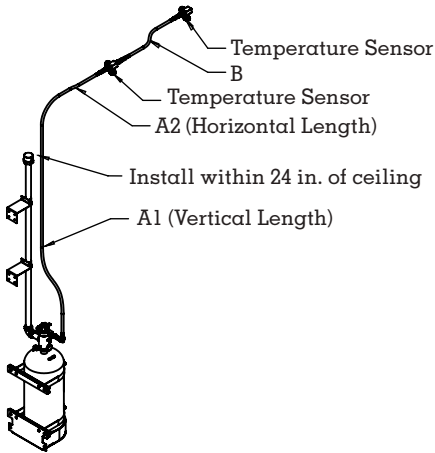
$$\frac{\quad}{1728} \text{ in.}$$

Gross Engine Room Volume = $\frac{\quad}{\quad}$ ft.³

GA1 Maximum Protected Volume = **1,500 cu. ft.**
 GA2 Maximum Protected Volume = **3,000 cu. ft.**

PLEASE REFER TO THE DIAGRAM BELOW TO DETERMINE GA LINK DIMENSIONS

Temperature Sensors should be located on the ceiling of the protected space, above potential fire hazards.



GA1 WORKSHEET

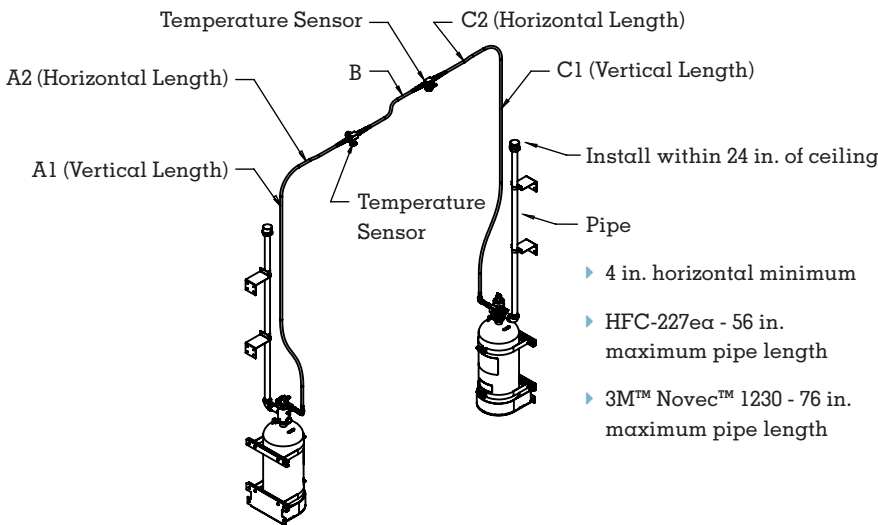
Maximum Length not to exceed 20 ft.

A1 = $\frac{\quad}{\quad}$ ft.

A2 = $\frac{\quad}{\quad}$ ft.

A = A1 + A2 = $\frac{\quad}{\quad}$ ft.

B = $\frac{\quad}{\quad}$ ft.



GA2 WORKSHEET

Maximum Length not to exceed 40 ft.

A1 = $\frac{\quad}{\quad}$ ft.

A2 = $\frac{\quad}{\quad}$ ft.

B = $\frac{\quad}{\quad}$ ft.

C1 = $\frac{\quad}{\quad}$ ft.

C2 = $\frac{\quad}{\quad}$ ft.

A = A1 + A2 = $\frac{\quad}{\quad}$ ft.

B = $\frac{\quad}{\quad}$ ft.

C = C1 + C2 = $\frac{\quad}{\quad}$ ft.

Download the complete 3M™ Novec™ and HFC-227ea worksheets at: <http://www.fireboy-xintex.com/ga-fire-extinguisher>

GA SERIES MODEL SELECTION CHART 3M™ NOVEC™ 1230 FIRE PROTECTION FLUID SYSTEM

3M™ Novec™ 1230 Fire Protection Fluid is an advanced, “next-generation” Halon and CO₂ replacement, offering a number of important advantages over other clean agents and CO₂ in marine applications.

With zero ozone depletion potential, short atmospheric lifetime and a global warming potential of <1, Novec 1230 fluid has proven to be the first chemical Halon replacement to offer a viable, long-term, sustainable solution for marine fire protection. Double the agent amount and shipping weight for GA2 two (2) cylinder system.

PROPERTIES	NOVEC 1230	HFC-125	HFC-227ea	HFC-23
Ozone Depletion Potential (ODP) ¹	0.0	0.0	0.0	0.0
Global Warming Potential–IPCC ²	1	3500	3220	14800
Atmospheric Lifetime (Years)	0.014 (5 days)	29	34.2	270

¹ World Meteorological Organization (WMO) 1998, Model-Derived Method

² Intergovernmental Panel on Climate Change. (IPCC) 2007 Method, 100 Year ITH, CO₂ = 1

GA1 MODEL SELECTION CHART / 600 - 2,000 FT³ / SINGLE CYLINDER SYSTEM

GA1 MODEL NUMBER	VOLUME PROTECTED		DIAMETER		TOTAL HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT		SYSTEM PRESSURE
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs	psi (@70° F)
GA10600NVC-B	600	17.0	10	254	27.1	689	32.2	14.6	70	31.8	360
GA10650NVC-B	650	18.4	10	254	27.1	689	34.9	15.8	73	33.1	360
GA10700NVC-B	700	19.8	10	254	27.1	689	37.6	17.1	76	34.5	360
GA10750NVC-B	750	21.2	10	254	27.1	689	40.3	18.3	78	35.4	360
GA10800NVC-B	800	22.6	10	254	27.1	689	43.0	19.5	81	36.7	360
GA10850NVC-B	850	24.0	10	254	27.1	689	45.7	20.7	84	38.1	360
GA10900NVC-B	900	25.5	10	254	33.3	846	48.4	22.0	91	41.3	360
GA10950NVC-B	950	26.9	10	254	33.3	846	51.0	23.1	94	42.6	360
GA11000NVC-B	1,000	28.3	10	254	33.3	846	53.7	24.4	97	44.0	360
GA11050NVC-B	1,050	29.7	10	254	33.3	846	56.4	25.6	99	44.9	360
GA11100NVC-B	1,100	31.1	10	254	33.3	846	59.1	26.8	102	46.3	360
GA11150NVC-B	1,150	33.0	10	254	33.3	846	61.8	28.0	105	47.6	360
GA11200NVC-B	1,200	34.0	10	254	33.3	846	64.5	29.3	108	49.0	360
GA11250NVC-B	1,250	35.4	10	254	38.1	968	67.2	30.5	117	53.1	360
GA11300NVC-B	1,300	36.8	10	254	38.1	968	69.8	31.7	120	54.4	360
GA11350NVC-B	1,350	38.2	10	254	38.1	968	72.5	32.9	123	55.8	360
GA11400NVC-B	1,400	39.6	10	254	38.1	968	75.2	34.1	125	56.7	360
GA11450NVC-B	1,450	41.0	10	254	38.1	968	77.9	35.3	128	58.1	360
GA11500NVC-B	1,500	42.5	10	254	38.1	968	80.6	36.6	131	59.4	360
GA11550NVC-B	1,550	43.9	10	254	47.3	1202	83.3	37.8	141	64.0	360
GA11600NVC-B	1,600	45.3	10	254	47.3	1202	86.0	39.0	144	65.3	360
GA11650NVC-B	1,650	46.7	10	254	47.3	1202	88.7	40.2	147	66.7	360
GA11700NVC-B	1,700	48.1	10	254	47.3	1202	91.3	41.4	149	67.6	360
GA11750NVC-B	1,750	49.6	10	254	47.3	1202	94.0	42.6	152	69.0	360
GA11800NVC-B	1,800	51.0	10	254	47.3	1202	96.7	43.9	155	70.3	360
GA11850NVC-B	1,850	52.4	10	254	47.3	1202	99.4	45.1	157	71.2	360
GA11900NVC-B	1,900	53.8	10	254	47.3	1202	102.1	46.3	160	72.6	360
GA11950NVC-B	1,950	55.2	10	254	47.3	1202	104.8	48.5	163	73.9	360
GA12000NVC-B	2,000	56.6	10	254	47.3	1202	107.5	48.8	166	75.3	360

GA2 MODEL SELECTION CHART / 1,200 - 4,000 FT³ / TWO CYLINDER SYSTEM

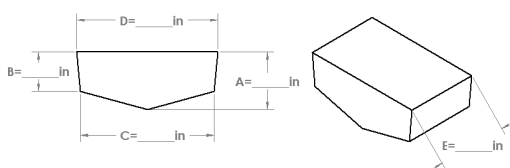
GA2 MODEL NUMBER	VOLUME PROTECTED		DIAMETER		TOTAL HEIGHT		AGENT WEIGHT		SHIPPING WEIGHT		SYSTEM PRESSURE
	ft ³	m ³	in	mm	in	mm	lbs	kgs	lbs	kgs	psi (@70° F)
GA21200NVC-B	1,200	34.0	10	254	27.1	689	32.2	14.6	70	31.8	360
GA21300NVC-B	1,300	36.8	10	254	27.1	689	34.9	15.8	73	33.1	360
GA21400NVC-B	1,400	39.6	10	254	27.1	689	37.6	17.1	76	34.5	360
GA21500NVC-B	1,500	42.5	10	254	27.1	689	40.3	18.3	78	35.4	360
GA21600NVC-B	1,600	45.3	10	254	27.1	689	43.0	19.5	81	36.7	360
GA21700NVC-B	1,700	48.1	10	254	27.1	689	45.7	20.7	84	38.1	360
GA21800NVC-B	1,800	51.0	10	254	33.3	846	48.4	22.0	91	41.3	360
GA21900NVC-B	1,900	53.8	10	254	33.3	846	51.0	23.1	94	42.6	360
GA22000NVC-B	2,000	56.6	10	254	33.3	846	53.7	24.4	97	44.0	360
GA22100NVC-B	2,100	59.5	10	254	33.3	846	56.4	25.6	99	44.9	360
GA22200NVC-B	2,200	62.3	10	254	33.3	846	59.1	26.8	102	46.3	360
GA22300NVC-B	2,300	65.1	10	254	33.3	846	61.8	28.0	105	47.6	360
GA22400NVC-B	2,400	68.0	10	254	33.3	846	64.5	29.3	108	49.0	360
GA22500NVC-B	2,500	70.8	10	254	38.1	968	67.2	30.5	117	53.1	360
GA22600NVC-B	2,600	73.6	10	254	38.1	968	69.8	31.7	120	54.4	360
GA22700NVC-B	2,700	76.5	10	254	38.1	968	72.5	32.9	123	55.8	360
GA22800NVC-B	2,800	79.3	10	254	38.1	968	75.2	34.1	125	56.7	360
GA22900NVC-B	2,900	82.0	10	254	38.1	968	77.9	35.3	128	58.1	360
GA23000NVC-B	3,000	85.0	10	254	38.1	968	80.6	36.6	131	59.4	360
GA23100NVC-B	3,100	87.8	10	254	47.3	1,202	83.3	37.8	141	64.0	360
GA23200NVC-B	3,200	90.6	10	254	47.3	1,202	86.0	39.0	144	65.3	360
GA23300NVC-B	3,300	93.4	10	254	47.3	1,202	88.7	40.2	147	66.7	360
GA23400NVC-B	3,400	96.3	10	254	47.3	1,202	91.3	41.4	149	67.6	360
GA23500NVC-B	3,500	99.1	10	254	47.3	1,202	94.0	42.6	152	69.0	360
GA23600NVC-B	3,600	101.9	10	254	47.3	1,202	96.7	43.9	155	70.3	360
GA23700NVC-B	3,700	104.8	10	254	47.3	1,202	99.4	45.1	157	71.2	360
GA23800NVC-B	3,800	107.6	10	254	47.3	1,202	102.1	46.3	160	72.6	360
GA23900NVC-B	3,900	110.4	10	254	47.3	1,202	104.8	48.5	163	73.9	360
GA24000NVC-B	4,000	113.2	10	254	47.3	1,202	107.5	48.8	166	75.3	360

GA1 & GA2 NOVEC 1230 GROSS ENGINE ROOM VOLUME WORKSHEET (TYPICAL)

Fireboy-Xintex will certify the volume of the engine room from manufacturer CAD drawing including volume calculations, or from a completed Engine Room Volume Worksheet

$$\frac{\text{A}}{\text{D}} \text{ in.} + \frac{\text{B}}{\text{C}} \text{ in.} = \frac{\text{in.}}{2} = \text{in.} \times \frac{\text{in.}}{\text{C}} = \text{in.}^2$$

$$\frac{\text{in.}}{\text{D}} - \frac{\text{in.}}{\text{C}} = \frac{\text{in.}}{2} = \text{in.} \times \frac{\text{in.}}{\text{B}} = + \text{in.}^2$$



$$\text{Additional Volume(s)} + \frac{\text{in.}^3}{1728}$$

$$\text{Gross Engine Room Volume} = \text{ft.}^3$$

GA1 Maximum Protected Volume = 2,000 cu. ft.
GA2 Maximum Protected Volume = 4,000 cu. ft.

Download the complete 3M™ Novec™ and HFC-227ea worksheets at: <http://www.fireboy-xintex.com/ga-fire-extinguisher>