



# Fuel Saver

## improves fuel economy of diesel, kerosene, bunker A, and biodiesel!

# 15%~30%

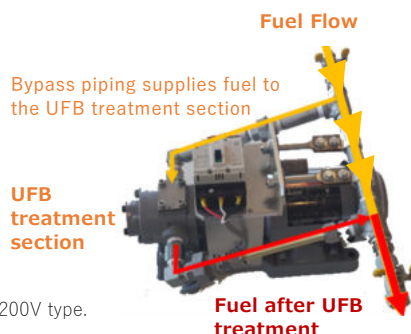
or more

Examples of fuel savings  
(shown on reverse side)

**Effective implementation of UFB technology is the secret to reduced fuel consumption.**

### ① UFB treatment of fuel with Fuel Saver

UFB (Ultra Fine Bubble) causes fuel clusters to become finer and temporarily lowers the kinematic viscosity of the fuel.



※ The photo shows FS02 AC200V type.

### ② Refines the injected fuel droplet



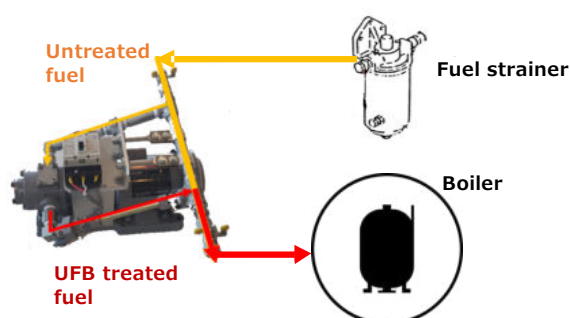
Decreased kinematic viscosity results in finer atomized fuel droplets.  
Increased specific surface area improves combustibility.

### ③ Improves combustion efficiency!

Makes complete combustion easier. Fuel efficiency of boilers, engines, etc. will improve as if they were brand new.

**The "retrofit system" allows the use of existing boilers and other equipment without modification.**

The fuel saver is connected between the fuel tank and the boiler, diesel engine, etc.  
(no modification of the boiler, etc. is required)



The fuel saver has a fuel bypass route. In the event of a malfunction, it will supply fuel to the boiler, diesel engine, etc. without problems. The boiler, diesel engine, etc. will not be shut down.

※ The fuel saver does not mix air or other substances into the fuel. Therefore, the fuel you refuel at the gas station can be used as it is. Moreover, (unlike emulsion fuel) the fuel saver does not cause a loss of torque under heavy load (when loading a large load or when climbing a hill).

**Diesel oil, biodiesel fuel, kerosene, and bunker A are eligible.**

# Two types of power supplies are available

## FS02 DC24V

This type uses a DC power supply (24V) such as a battery.

Available for trucks, buses, construction machinery, etc..



D 212mm ×  
W 410mm ×  
H 137mm  
(Excluding main unit and cock)  
Recommended fuel consumption:  
210L/h or less  
Electricity Consumption:  
160W (240W max.)  
Main unit weight: 13kg,  
Control box weight: 1kg

## FS02 AC200V

This type uses a three-phase AC power supply (200V).

Available for ships, factories (boilers), etc.



D 267mm ×  
W 390mm ×  
H 210mm  
(Excluding cock)  
Recommended fuel consumption:  
300L/h or less  
Electricity Consumption: 240W  
Main unit weight: 20kg

Diesel oil, kerosene, and bunker A are eligible.

### < Demonstration case study ① >

#### Example of fuel efficiency improvement of a boiler in a hot spring facility

Location: Yamanashi Prefecture, Ishiwa Onsen Hotel (19 guest rooms and a large open-air bath)  
Subject Equipment: Hot water boiler for the purpose of supplying well water as hot water.  
Use bunker A.

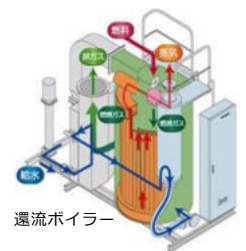
Period: May 1-4, 2022 (All rooms are full during the period)

Demonstration conditions: Using the same boiler, fuel consumption was compared for the following two times.

- Fuel saver on for 2 days (May 1 and 2)
- Fuel saver off for 2 days (May 3 and 4)

※ The rooms were fully occupied during the verification period, and the hot water temperature and hot water supply were equivalent.

FS	Date	Maximum temperature	Daily fuel consumption	Total fuel consumption
ON	May 1	16°C	224L	403L
	May 2	20°C	179L	
OFF	May 3	22°C	351L	603L
	May 4	26°C	252L	



#### 【 Result 】

- There is no significant difference in the amount of hot water supplied.
- If the temperature is higher, the boiler consumes less fuel.
- During the FS-on period, when temperatures are cooler and more fuel should be consumed, a 33.2% reduction in fuel consumption was achieved.

**33.2% reduction in fuel consumption**

### < Demonstration case study ② >

#### Example of improvement in fuel consumption and emissions on a bus in regular service

Subject Equipment: Large bus in regular service in Hanoi, Vietnam  
Diesel engine, 7.6L, 270 hp

Period: December 25, 2018 - March 2, 2019

Demonstration conditions: Running the same route for 30 days each.

Power supply: FS02 DC24V



Fuel consumption	Total distance traveled (km)	Fuel consumption (kg)	Fuel consumption per km traveled(g/ 1 km)
Disused	2440.8	985.76	404
Use FS	2442.6	785.7	321
Improved fuel economy			<b>20.5%</b>
Exhaust gas	CO (mg/Nm)	Sox (mg/Nm)	Nox (mg/Nm)
Disused	438	51	165
Use FS	275	43	136
Improved emissions	<b>37.2%</b>	<b>15.7%</b>	<b>17.6%</b>

※ NOTICE: Demonstrations do not guarantee reduction results. Results will vary depending on equipment conditions, usage, and environmental factors.

BH consulting

**Distributor**  
**BH Consulting Co., Ltd.**

5-11-1-RoP1203 Toranomon, Minato-ku, TOKYO

Tel: 03-6427-9001

[www.bhconsulting.jp](http://www.bhconsulting.jp) Mail: [info@bhconsulting.jp](mailto:info@bhconsulting.jp)

**AEL**

**Applied Energy Laboratory, Ltd.**

**Manufacturer**

**MARUYAMA MFG. CO., INC.**