


**Reliable design for a variety of safety devices is realized, earthquake detector is equipped as standard device.**

Various safety device, and fail safe in feed water and combustion control is strengthening the safety further.  
Earthquake detector is provided as standard device. When the Japanese (seismic) scale is detected at a little under 5 seismic intensity, boiler is stopped automatically, and secondary disaster can be prevented.



**Careful design for silent operation can realize the easy operation in night and early morning time.**

Low noise fan mounted or noise absorbing structure employed are reducing the operation noise. Then you do not need to worry about complaining from neighborhood.




**Inverter gets electric power saving**

Inverter is provided as standard equipment. Therefore the revolution of blower motor is properly controlled and the electric consumption is reduced.

**Anyone easy operation**

Anyone can operate only to push start button!

**ALL MODELS EASY TO OPERATE**



**Necessary and Auxiliary Equipment**

**WATER SOFTENER**

Provides the boiler with the most suitable water after treatment by our water softener



SS series

**Chemical Injection Equipment**

Keeps boiler in good condition for a longer period by Chemical Injection



CP-W series  
CP-X series

**Boiler Chemicals**

Multi-Functional Chemicals for protection against corrosion and scale sticking  
\*We might be unable to export due to the regulation of your country.  
Please contact us for confirmation.



**SAMCLEAN S-125**  
Category Code : G6, G7  
NSF Registration No. 166985

**Option**

**Boiler is always kept in the best condition**

**Concentrated Blow**

Controller operates concentrated blow automatically depending on operating conditions of the boiler. Optimum timing of overall blow is informed by lamp indication.  
\* EB-500N and EB-500PN include as a standard feature.

**Saves Your Operation Work**

**Automatic Overall Blow Control**

Controller signal instructs overall blow automatically, depending on operating conditions of the boiler.

**Multi-Boilers Control System**

Multi-Boilers Control Panel can control multi-boilers and maintain the best operating conditions. Even if there is a sudden change in steam load and any trouble with boilers, it is possible to supply steam constantly.

**ECO BOY**



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# EB Series

EB-160S EB-250N EB-350N EB-500N  
EB-250PN EB-350PN EB-500PN

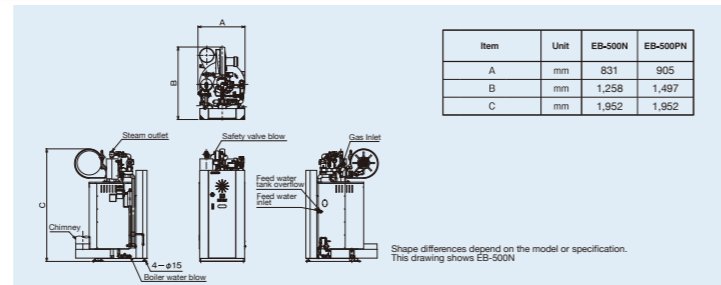
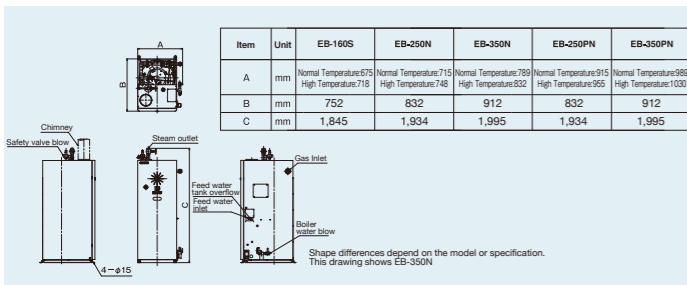


Item	Unit	EB-160S	EB-250N	EB-350N	EB-500N	EB-250PN	EB-350PN	EB-500PN	
Type of Boiler	—	Once-Through Boiler							
Max. Pressure	MPa(kgf/cm <sup>2</sup> )	0.69(7)	0.98(10)						
Working Pressure Range	MPa	0.39~0.59	0.39~0.88						
Hydraulic Testing Pressure	MPa(kgf/cm <sup>2</sup> )	1.19(12)	1.58(16)						
Equivalent Evaporation	kg/h	160	250	350	500	250	350	500	
Heat Output	kW(kcal)	100(86,200)	157(135,000)	219(189,000)	313(270,000)	157(135,000)	219(189,000)	313(270,000)	
Boiler Efficiency	%	90			85		96		
Heating Surface Area	m <sup>2</sup>	3.1	4.12	4.98	4.98	4.12	4.98	4.98	
Holding Water Volume	L	40	52	66	82	52	66	82	
Type of Burner	—	Blast							
Combustion Control	—	ON-OFF	3-Position(High-Low-OFF)						
Feed Water Control	—	ON-OFF							
Ignition	—	AC Spark Ignition							
Flame Detection	—	Flame Rod							
Weight	kg	330	430	530	655	560	720	850	
Weight in Operation	kg	370	485	600	740	620	790	945	
Fuel Consumption	13A	m <sup>3</sup> (N)/h	9.9	15.4	21.6	32.7	14.5	20.3	29.0
	LPG	m <sup>3</sup> (N)/h	4.3	6.7	9.4	14.2	6.3	8.8	12.5
	Propane	kg/h	8.6	13.5	18.9	28.6	12.7	17.7	25.3
	Butane	kg/h	8.8	13.7	19.2	29.1	12.9	18.0	25.7
Supply gas pressure	13A	kPa	2.0±0.5(200±50)						
	LPG	(mmAq)	2.8±0.5(280±50)						
Power Supply	—	AC200V 3φ(50/60Hz)*							
Available Electricity	kW	Normal Temperature:0.6 High Temperature:0.8	Normal Temperature:1.0 High Temperature:1.0	Normal Temperature:1.35 High Temperature:1.35	Normal Temperature:1.70 High Temperature:1.70	Normal Temperature:1.0 High Temperature:1.0	Normal Temperature:1.35 High Temperature:1.35	Normal Temperature:1.70 High Temperature:1.70	
Total Electric Capacity	kVA	Normal Temperature:1.23 High Temperature:1.44	Normal Temperature:1.75 High Temperature:1.79	Normal Temperature:2.31 High Temperature:2.31	Normal Temperature:2.93 High Temperature:2.93	Normal Temperature:1.75 High Temperature:1.79	Normal Temperature:2.31 High Temperature:2.31	Normal Temperature:2.93 High Temperature:2.93	
Main Wire Size	mm <sup>2</sup>	2							
Power Breaker Capacity	A	15							
Connection Dia.	Feed Water Inlet	Normal Temperature:15A High Temperature:20A			20A	Normal Temperature:15A High Temperature:20A			20A
	Gas Inlet(13A)	25A		32A	40A	25A	32A	40A	
	Gas Inlet(LPG)	25A			40A	25A			40A
	Steam Outlet	25A		32A	40A	25A	32A	40A	
	Safety Valve Blow	20A	25A		32A	25A		32A	
	Boiler Water Blow	25A							
	Feed Water Tank Overflow	20A			25A	20A		25A	
	Economizer Drain	25A							
	Air Inlet	10A			15A	10A		15A	
	Chemical Inlet	15A							
Chimney	mm	φ120	φ150	φ200	φ250	φ150	φ250		

1. The above specifications are based on the following standard values in Japan.  
 Steam pressure 0.49MPa(5kgf/cm<sup>2</sup>)  
 Feed water temp. 15°C  
 Feed air temp. 35°C  
 Lower heating value 13A : 40.6 MJ/m<sup>3</sup>(N) [9,700 kcal/m<sup>3</sup>(N)]  
 Propane : 93.7 MJ/m<sup>3</sup>(N) [22,380 kcal/m<sup>3</sup>(N)], 46.4 MJ/kg [11,080 kcal/kg]  
 Butane : 118.9 MJ/m<sup>3</sup>(N) [28,400 kcal/m<sup>3</sup>(N)], 45.7 MJ/kg [10,920 kcal/kg]

2. Please always supply with gas at the stable pressure within standard range at anytime of boiler stop, boiler operation and other equipment operation.

3. The following allowance is considered as unavoidable measurement error :  
 Measurement error in boiler efficiency ±2%  
 Measurement error in combustion (input) ±3.5%  
 4. Specifications are subject to change without prior notice.  
 \* 200-480V can be available by transformer.



## Feature 1 Energy saving operation by 3-position control

In this capacity of boiler, we are the first manufacturer to provide 3-position control with all models. (Except for EB-160S)

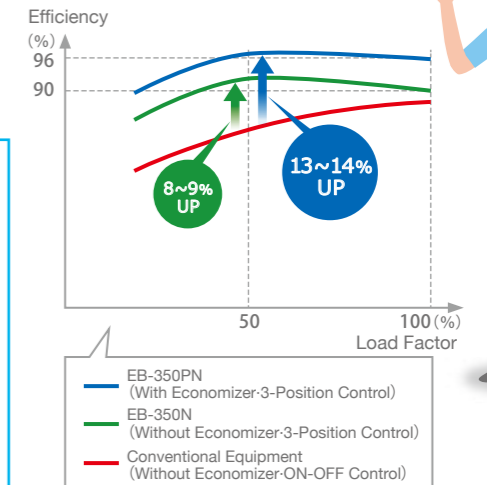
ON-OFF control drop the operation efficiency as the consumption of steam is reduced. In case of ECO BOY employing 3-position control, it is continued to operate, even if the consumption of steam is reduced to a half. Consequently few number of ON-OFF control is operated and the operation efficiency is improved.

### Low Fuel Consumption & CO2 Reduction

When the comparison is made between the former ON-OFF control and New EB-350N/PN employing 3-position control, you can find the following advantage in the fuel cost and the environmental CO2 reduction.

**Fuel Reduction** EB-350N >>> ¥120,000/Year Reduction  
 EB-350PN (With Economizer) >>> ¥230,000/Year Reduction  
**CO2 Reduction** EB-350N >>> 3.0t/Year Reduction  
 EB-350PN (With Economizer) >>> 5.8t/Year Reduction

Calculation Condition ● Equivalent Evaporation 350kg/h Boiler 1unit  
 ● Operating Time 1,500Hours/Years (6Hours 250days)  
 ● Average Load 50% ● Fuel Cost ¥90/m<sup>3</sup>(13A)



3-position control establish saving energy



## Feature 2 High boiler efficiency establish high economical operation

Efficiency is on a level with the best in the industry!  
 Boiler efficiency at rated operation is standardized as 90% except EB-500N. Furthermore, the efficiency of Boilers with economizer reach to high level as 96%.

In addition to energy saving operation by 3-position control, this become much more economical by reducing fuel at higher efficiency of boiler.

**Boiler Efficiency** EB-250PN EB-350PN EB-500PN  
**96%**

**Boiler Efficiency** EB-160S EB-250N EB-350N  
**90%**

High boiler efficiency establish high economical operation



## Feature 3 Clear design establishes easy control

Front panel is clear design of One-button Design

It is easy to understand the operation condition of boiler by coloring on operation button, and simple to operate by one button control.

Easy to see and control

