



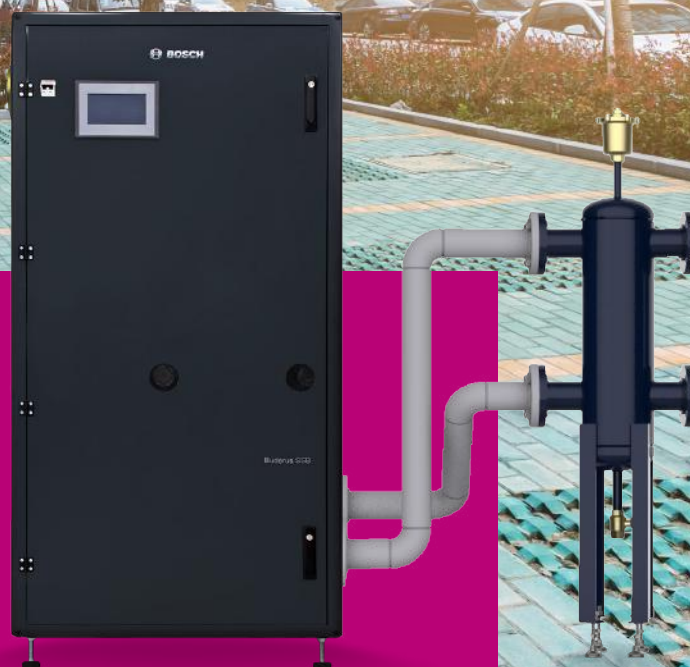
# **BOSCH**

Invented for life

## **Bosch Stainless Steel Commercial Boiler**

### **Buderus SSB**

The Buderus SSB Commercial Boiler is a stainless steel boiler built for commercial applications with output ranges from 800 to 8192 MBH. Designed to deliver high quality, flexibility and dependability in the industry.







# Heavy Duty Commercial Boiler

## Bosch Buderus SSB

The Buderus SSB Commercial Boilers were designed to deliver the high quality, flexibility and dependability in the industry. With a small footprint (31.5" x 36"), minimal clearance requirements and output ranges from 800 to 8192MBH<sup>(1)</sup>, these boilers can be utilized in almost any application.

If redundancy is what you're looking for, these boilers are the answer. Each SSB Commercial Boiler has two fully independent heat exchangers which can be operated individually if necessary. In addition, the 1000TL boilers have an innovative design which allows up to 4 of these boilers to be cascaded on either side without any additional purchased venting parts or accessories.

Designed to control the central heat and the domestic hot water, the SSB works with multiple building communication options, including Modbus, BACnet and LonWorks. Integrated cascading allows configurations to meet heating demands of 8192 MBH making the SSB boiler ideal for many applications including schools, hotels, office buildings and warehouses.

### Features

- ▶ Bosch offers a superior non-prorated 10-year limited warranty for its Heat Exchanger. In addition, we offer an unmatched 2-year parts warranty<sup>§</sup>
- ▶ Dual 316L stainless steel heat exchangers for increased capacity
- ▶ Flexible installation options with a small footprint
- ▶ Boiler is equipped with a multi-speed circulator pump on each module
- ▶ Connection points on either the left or right side
- ▶ Up to 96.8% thermal efficiency
- ▶ 40:1 turndown capability in cascade applications
- ▶ Cascade up to four SSB1000 boilers to achieve up to 4096 MBH
- ▶ 7" external touchscreen display for user-friendly complete system monitoring



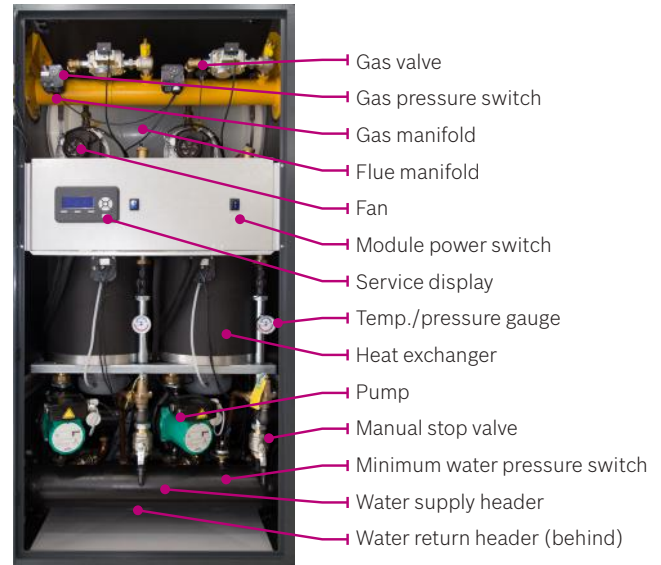
# System & Technical Information

## Cascade Up-To Four SSB1000TL's

- ▶ Easily connect up to four SSB1000TL together without any additional parts or accessories
- ▶ 8192 MBH is possible by connecting the communication cable between two sets of SSB1000TL4
- ▶ All hydraulic manifold piping (water, gas and exhaust/air) are factory installed and self-contained within the boiler's outer cabinet
- ▶ Each SSB1000TL includes the connection hardware and gaskets to easily connect to another SSB1000TL



## Internal Components



## Heat Exchanger

- ▶ 316L stainless steel heat exchanger
- ▶ Dependable water tube heat exchanger with easy access supply & return
- ▶ Thermal efficiency levels up to 96.8%, achieved with up to 40:1 modulation
- ▶ Precision welded for increased reliability



## Integrated Control

- ▶ Manual Reset High Limit & LWCO test button
- ▶ Easily connected to a room thermostat
- ▶ Outdoor reset & hot water priority standard
- ▶ Smart System Control "Argus Vision" for easy set up & commissioning



Technical Specifications	Unit of Measure	SSB800	SSB1000	SSB1000TL
<b>Max Input Rate</b>	BTU/hr (kW)	798,000 (234)	1,024,000 (300)	1,024,000 (300)
<b>Min Input Rate</b>	BTU/hr (kW)	79,800 (23.4)	96,100 (28.2)	96,100 (28.2)
<b>Turndown</b>	Ratio (%)	10:1 (10%)	10:1 (10%)	10:1 (10%)
<b>Gas Connections (NPT)</b>	Ø Inch	2	2	3 (Flanged)
<b>Max./ Min NG Pressure</b>	Inch W.C. (mbar)	20 (50) / 3.5 (8.72)		
<b>Max. / Min LPG Pressure</b>	Inch W.C. (mbar)	20 (50) / 8 (19.9)		
<b>Water Connections</b>	Ø Inch	3	5	
<b>Water Flow at Max Power (ΔT 36°F / 20°C)</b>	GPM (m3/h)	44 (10)	57 (13)	57 (13)
<b>Water Flow at Max Power (ΔT 45°F / 25°C)</b>	GPM (m3/h)	35 (8)	44 (10)	44 (10)
<b>Water Pressure Drop at Min Water Flow</b>	Feet W.C. (mbar)	7 (209)	8 (239)	7 (209)
<b>Water Pressure Drop at Max Water Flow</b>	Feet W.C. (mbar)	19 (568)	33 (986)	29 (866)
<b>Water Volume</b>	Gallon (liter)	13.0 (50)	16.0 (60)	20.0 (75)
<b>Vent/Air Intake Connections</b>	Ø Inch (Ø mm)	6 (160)	6 (160)	10 (254)
<b>Max Operating Temperature</b>	°F (°C)	194 (90)	194 (90)	194 (90)
<b>Max HE Allowable Temperature</b>	°F (°C)	210 (98.9)	210 (98.9)	210 (98.9)
<b>Ambient Storage Temperature Dry</b>	°F (°C)	5 to 158 (-15 to 70)	5 to 158 (-15 to 70)	5 to 158 (-15 to 70)
<b>Ambient Functioning Temperature</b>	°F (°C)	32 to 120 (0 to 49)	32 to 120 (0 to 49)	32 to 120 (0 to 49)
<b>Surface Heat Exchanger</b>	SQFT (m2)	56 (5.2)	88 (8.2)	88 (8.2)
<b>Standard Listings &amp; Approvals</b>	ASME Sect.IV			
<b>Type of Gas</b>	Natural Gas, Propane			
<b>Electrical Req. 120VAC/1PH/60Hz</b>	15.1 FLA			
<b>Noise Rating</b>	dB	51	52	52
<b>Weight (dry)</b>	lbs (kg)	860 (390)	992 (450)	1124 (510)
<b>Min. Clearance to Combustibles</b>	Inch (mm)	24 (610)		
<b>Dimension W x H x D (inches rounded up to the nearest 1/2")</b>	Inch (mm)	35.43 x 70.86 x 31.5 (899.92 x 1799.84 x 800.1)		

(1) 8192MBH is possible by connecting the communication cable between two sets of SSB1000TL4.  
 § Copies of original warranties in their entirety are available at [www.boschheatingandcooling.com](http://www.boschheatingandcooling.com)



# Bosch SSB LLH

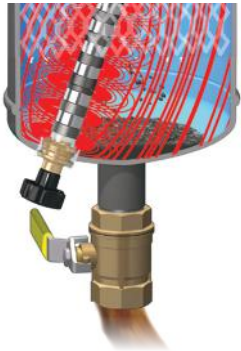
The Bosch SSB LLH combination hydraulic, air and dirt separator is a device that combines high performance air and dirt removal with hydraulic separation. Primary and secondary circuits connected to it become hydraulically decoupled thus eliminating pump conflict.

A proven, time tested stainless steel internal coalescing element continuously and automatically eliminates all entrained air, including micro-bubbles, in the system. Air discharge capacity is very high. Over time, dirt particles as tiny as 5 microns are captured and collected away from the flow stream.

The 3-in-1 high performance functionality saves system installation and maintenance cost as there is no need to include separate air and dirt separators.

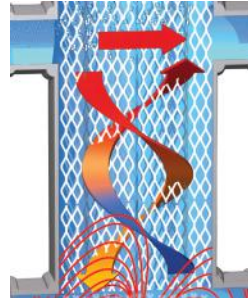


## LLH 4-in-1 High Performance Functionality



### Dirt Separation

- ▶ Impurities get separated and drop to the bottom of the body
- ▶ Large internal volume slows down the fluid flow speed – helps by gravity to separate the particle it contains
- ▶ Discharged by opening the drain valves with the handle



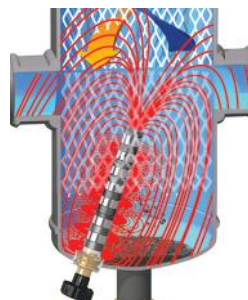
### Hydraulic Separation

- ▶ Unique geometry and design
- ▶ Prevents pump conflict from occurring
- ▶ Hydraulically independent



### Air Separation

- ▶ Whirling movement facilitates the release of microbubbles
- ▶ Bubbles increase in size – Hydrostatic thrust overcomes the adhesive force to the mesh
- ▶ Rise to top & release through a float-operated automatic air vent



### Magnetic Removal of Ferrous Particles

- ▶ Utilizes powerful rare-earth magnet assembly
- ▶ 2-1/2 times the performance of standard air and dirt separators
- ▶ Separation function causes no added system pressure drop
- ▶ Ferrous impurities can deposit onto heat exchanger surfaces and accumulates onto pump activities

# Bosch SSB Multi-Modular System

Save Space, Time, and Money



## Advantages of Bosch SSB Multi-Modular System

- ▶ Minimum clearance required due to compact size
- ▶ Flexible install options, left or right LLH mounting
- ▶ Increase in efficiency as each stage operates in a steady state
- ▶ Extended boiler life cycle
- ▶ Easy to repair and service
- ▶ Inherently redundant
- ▶ Consistent water volume and heat transfer area
- ▶ Multiple smaller units to make up heating load

## Modularity & Redundancy + SSB LLH

- ▶ Tied in cascade to operate as a "single" boiler
- ▶ Each module includes:
  - (2) Independent 512MBH Heat Exchangers,
  - (2) Burners, (2) Operating controls

## Example 2,500MBH Heating Load

### Bosch SSB Multi-Modular System

3 SSB's 1,000MBH modules which includes full redundancy and reduces infrastructure to 3,000MBH installed + SSB LLH

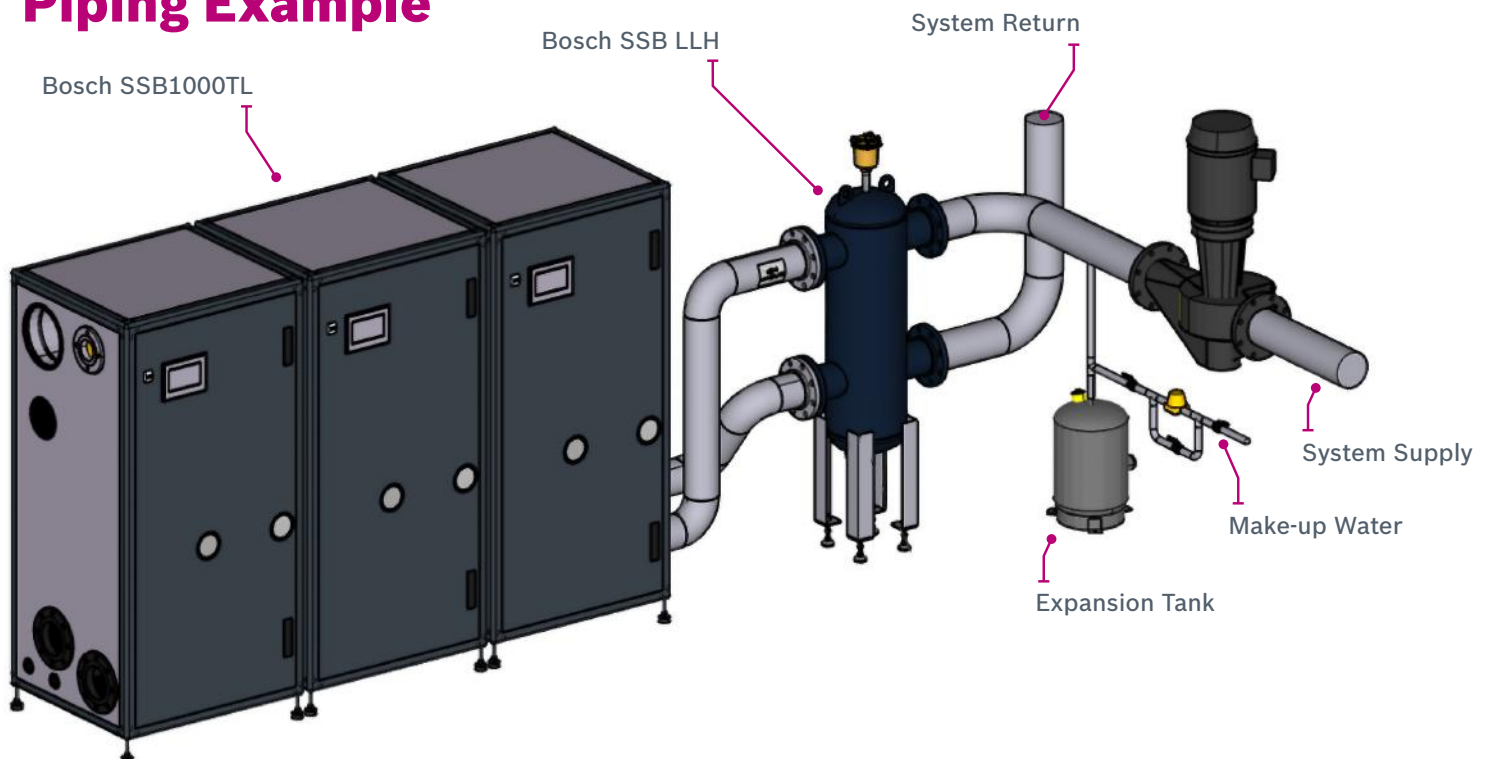
VS

### Traditional Boiler System Approach

2 boilers 67% each requires two large 2,000MBH boilers for a total of 4,000MBH installed + separate air and dirt separators



## Piping Example



# About **Bosch**

## **Bosch Group**

The Bosch Group is a leading global supplier of technology and services in the areas of Automotive, Industrial Technology, Consumer Goods and Building Technology. The company was founded in Stuttgart, Germany, in 1886 and presently has more than 440 subsidiaries and is represented in over 150 countries.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket solutions, industrial drives and control technology, power tools, security and communication systems, packaging technology, thermotechnology, household appliances and software solutions. The Bosch Group's products and services are designed to improving quality of life by providing innovative and beneficial solutions. In this way, the company offers technology worldwide that is "Invented for life." Additional information is available online at [boschheatingandcooling.com](http://boschheatingandcooling.com) and [bosch.ca](http://bosch.ca).

## **Bosch Thermotechnology in North America**

Bosch Thermotechnology is a leading source of high quality water heating and comfort systems. The company offers gas tankless, electric whole house and point-of-use water heaters, Bosch and Buderus floor-standing and wall mounted boilers, Bosch and FHP geothermal, water-source and air-source systems as well as controls and accessories for all product lines. Bosch Thermotechnology is committed to being Simply Smart by offering products that work together as integrated systems that enhance quality of life in an ultra-efficient and environmentally friendly manner. For more information, visit [boschheatingandcooling.com](http://boschheatingandcooling.com).



Heating



Cooling



Hot Water



Controls

### **Bosch Thermotechnology Corp.**

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