TARM BIOMASS
Innovative Leaders in Alternative Heating Solutions

Listed Appliance

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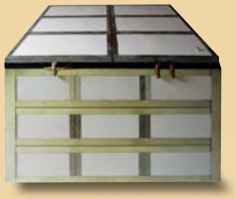
Heat Storage Systems

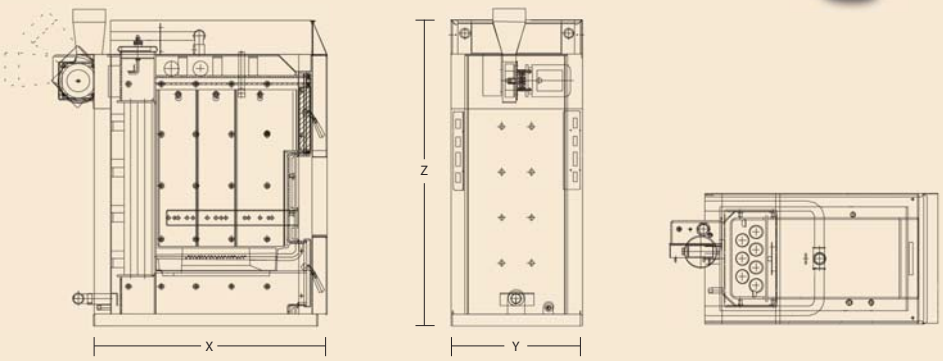
A storage tank must be used to allow the Solo Innova to burn at maximum efficiency. The heat generated by the boiler (and not used by the home) can simply be stored for later use.

Un-pressurized Round



Un-pressurized Square

Pressurized



Warranty

Each Solo Innova boiler, when installed with a heat storage system, is covered by a 20-year limited warranty. A copy is available for your inspection, and is provided with each boiler.

Disclaimer

Tarm Biomass™ is not responsible for factory alterations to measurements. For final specifications, please see the Solo Innova Owner's Manual.

Technical Data		30	50
Firebox volume	cubic feet	4¾	6½
Load door	in. X in.	13¾ X 13⁵⁄₁₆	13¾ X 13⁵⁄₁₆
Max. wood length	inches	20	20
Unit length X	inches	46¾	46¾
Unit width Y	inches	23	27⁵⁄₁₆
Unit height Z	inches	54⅛	54⅛
Water volume	gallons	35	48
weight	pounds	1,115	1,215
Flue collar size	inches	6	6
Height of flue collar	inches	56⅛	56⅛

Dimensions are subject to technical alterations.

Pressure tested in accordance with EN 303-5, NON-ASME

HS TARM

Solo Innova

Wood-fired Gasification Add-on Boiler

- Easy to Operate
- High Quality
- High Efficiency
- Carbon Neutral
- Induced Draft Gasification Technology
- DS/EN ISO 9001 Certified

Solo Innova

Wood-fired Gasification Add-on Boiler

Solo Innova Applications
- add on to your existing fossil-fuel-fired system
- hot water baseboard
- radiant floors
- hot air

Features
- 80%+ overall efficiency
- clean burn with virtually no smoke or creosote
- large, easily accessible firebox
- smoke-free loading
- easy to clean with very little ash

Combustion is regulated by a thermostatically-controlled induction blower that draws combustion air into the boiler's ceramic combustion tunnel. Here, exceptionally efficient combustion takes place at high temperatures allowing the Solo Innova to use very little fuel in comparison to "conventional" boilers.

Independence and Self-Reliance
Solo Innova boilers—the next generation of the popular Solo Plus boilers—provide a convenient, safe, and environmentally responsible way to heat your home and hot water with wood. Solo Innova owners are ensured of unusually high heating efficiency, low heating costs, and use of an abundant, locally available, renewable fuel. The Solo Innova wood gasification combustion technology is the most efficient way to burn cordwood. As a result, the Solo Innova boiler uses substantially less wood than conventional wood boilers and outdoor water stoves. Additionally, this high-efficiency burn technology produces little or no creosote, virtually eliminating the risk of chimney fires and greatly reducing emissions.

Sizing Your Boiler
As with any heating system, choosing an appropriately sized heat source is necessary to optimize efficiency, ease of operation and home comfort. Be wary of using simple techniques based only on square footage. The heat load of a home can vary widely depending on age and type of construction, type of heating system and location of the home. If you have questions about which boiler is most appropriate for your needs, please contact your local BioHeatUSA dealer or contact us directly at our toll free number and we would be happy to discuss your application.

Reliability
The boiler vessel is made of fully welded 6mm thick plate steel. Additionally, 4mm steel aprons elevate firebox temperatures, making the Solo Innova tolerant of wood moisture content as high as 25%.

Tarm boilers are constructed to European boiler design standard EN 303-5 and are designed for pres-surized systems.

Efficiency
The Solo Innova boiler uses induced down-draft gasification technology to achieve very high efficiency. Primary air is introduced into the base o f the firebox for consistently clean and efficient combustion. A high temperature (1800°F or more) is reached in a second refractory-lined chamber. This secondary combustion consumes the creosote and smoke that normally goes up the chimney, thereby wringing every bit of energy out of the wood fuel and resulting in a very clean burn.

When adding wood to an established fire in most wood boilers, smoke can roll out of the open loading door into your home. The Solo Innova, on the other hand, has a smoke extraction passage along the top of the firebox. Any smoke that tries to roll out of the loading door is pulled into this passage and into the chimney, preventing smoke from entering your home.

The ample heat exchange tubes are sized for maximum extraction of the energy in the high-temperature exhaust stream. These tubes integrate removable turbulators, which enhance heat transfer. Despite the very high secondary burn temperatures, stack temperatures remain relatively low. Periodic brushing of the heat exchange tubes will help maintain boiler efficiency, and is easily accomplished via the hatch on the top of the boiler.

Optimization and Heat Storage
Firewood burns most efficiently and cleanly when it is burned hot and fast. Your home, however, does not use heat in this same way; it calls for heat only as needed. In order to match both of these demands, a heat storage system is required. Instead of smoking and smoldering in idle mode when your home is up to temperature, a storage tank will allow the Solo Innova to continue to burn at maximum efficiency. The excess heat generated will simply be stored in the water tank for later use.

Heat Storage System Advantages
- High efficiency/less fuel consumption
- Cleaner, soot-free combustion
- Extends boiler lifetime

A heat storage system will produce and store hot water throughout the year.

About Tarm Biomass™
Tarm Biomass™, formerly BioHeatUSA, is a third-generation, family-owned business that has pioneered the sales and service of European residential central heating equipment in North America for over 30 years. Tarm Biomass™ primary objective is to offer innovative home heating solutions, along with a significant commitment to consumer education and environmental awareness. Exclusive partnerships with ISO 9001 certified manufacturers allows Tarm Biomass™ to offer products with operational reliability, unique firing efficiency, and to promote the clean burning of carbon-cycle biomass that is critical to the lowering of net greenhouse gas emissions.

About HS Tarm
HS Tarm, a brand synonymous with quality and innovation, has been supplying boilers for over 80 years. Now owned by Baxi Group, one of Europe's most trusted names in heating and hot water, HS Tarm boilers continue to be a premier name in home heating systems.

Innovation
- Standard turbulators improve heat transfer efficiency
- Integrated circulator control makes optimal use of heat storage system
- Super heavy jacket insulation
- Large, reversable door openings (13¾ X 13⅜)
- Easy to light with powerful induced draft
- Smoke extraction passage prevents smoke from entering your home
- Flue collar rotates from vertical to 45° to horizontal position

Image used for informational purposes only.
Actual appearance may vary.

How It Works
Solo Innova is a patented, wood-fired gasification boiler available in two sizes with outputs from 102,500 (model 30) to 170,700 (model 50) BTU/hr.

The wood gasification combustion process begins when the draft induction fan turns on and pulls fresh air into the boiler. This air is pulled into the bottom of the firebox and down through the live charcoal bed. Simultaneously, additional pre-heated air is injected into this stream of hot gases resulting in a very hot 1800°F to 2000°F secondary burn. Only at these temperatures can a high efficiency, clean burn be achieved.

Standard Equipment
- jacket with insulation
- steel doors with gasketing
- draft fan
- turbulators
- relief valve
- boiler control
- cleaning implements
- manual

Optional Equipment
- Termovar boiler protection valve
- contact Tarm Biomass™ for a full list of accessories