

# SMART WOOD HEAT

Effecta Smart 40 / 55

**Firewood Boilers**



# EFFECTA SMART

## 40 & 55



EPA  
certified

### As Easy As it Gets

We proudly present our Lambda controlled firewood gasification boiler, the Effecta Smart. With the Effecta Smart, you are entering a new dimension in heating with wood.

### How It Works

Effecta Smart substantially simplifies wood burning. Like any smart operator, the boiler "pays attention" to the combustion process with a lambda sensor mounted in the exhaust collar. Sensor readings are the basis for real time primary and secondary damper adjustments. It doesn't matter if the wood is pine or oak, split small or in rounds, or whether the fire is just starting or burning out. Combustion is always optimized for efficiency and low emissions.

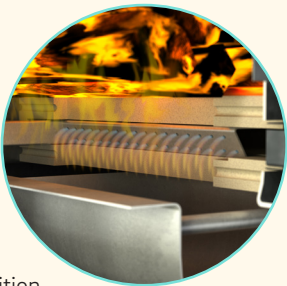
### Smart Controls

The Smart lambda control is an active partner in trouble free operation. The graphic control panel is intuitive and uses a single push knob to access text based menus. All functions can be viewed quickly and easily. At Effecta lambda sensors have been used since 2005.



### Combustion

Effecta Smart burns with induced, fan controlled combustion. Air is drawn into the combustion chamber through motorized dampers creating a controlled combustion environment. Resulting gasses are injected with pre-heated secondary air in the throat of the ceramic chamber causing second stage ignition.



The flames swirl in the afterburner chamber, reaching temperatures in excess of 2000° F. The hot gasses pass through optimized heat exchangers where heat is transferred to the boiler water. Exiting exhaust is about 350 ° F. Smart boilers are easy, convenient, and efficient.

\* Efficiency from EN 303-5 LHV



### Always Use an Accumulator Tank- Now that's Smart!

Smart boilers must always be used in association with accumulator tanks. We recommend a minimum of 400 gallons with the Smart 40 and 800 gallons with the Smart 55. The highly efficient combustion process and large loading capacity means infrequent loading is necessary. The energy stored in accumulator tanks is ready to be used for heating and domestic hot water whenever required.

### Automatic cleaning of Heat Exchanger

Each time the loading door for firewood is opened a mechanism moves the turbulators in the heat exchanger up and down. This movement results in ash, soot and dust to fall off the turbulators and heat exchanger down in to the ash compartment. With a traditional firewood boiler it is required to clean the heat exchanger after a number of firings to keep a high efficiency of the firing. With the Effecta Smart the cleaning of the heat exchanger is required at a minimum!

### Well proven ceramics

Our ceramic and stainless after burner chamber is extremely well proven with many thousands out in field. The unique feature is that our weight of the ceramics is low and will therefore gasify quicker. After the firing cycle there is a very small amount of energy left in the stones because of the low thermal mass. Minimum losses in the daily use!

#### LAMBDA CONTROLLED

Best combustion by electronic servo motors

#### HIGH EFFICIENCY

With minimum environmental emissions

#### LARGE LOADING CAPACITY

5.2 / 6.9 ft<sup>3</sup>, gives great ease of use and much energy per fill of firewood


#### REVERSEBLE DOORS

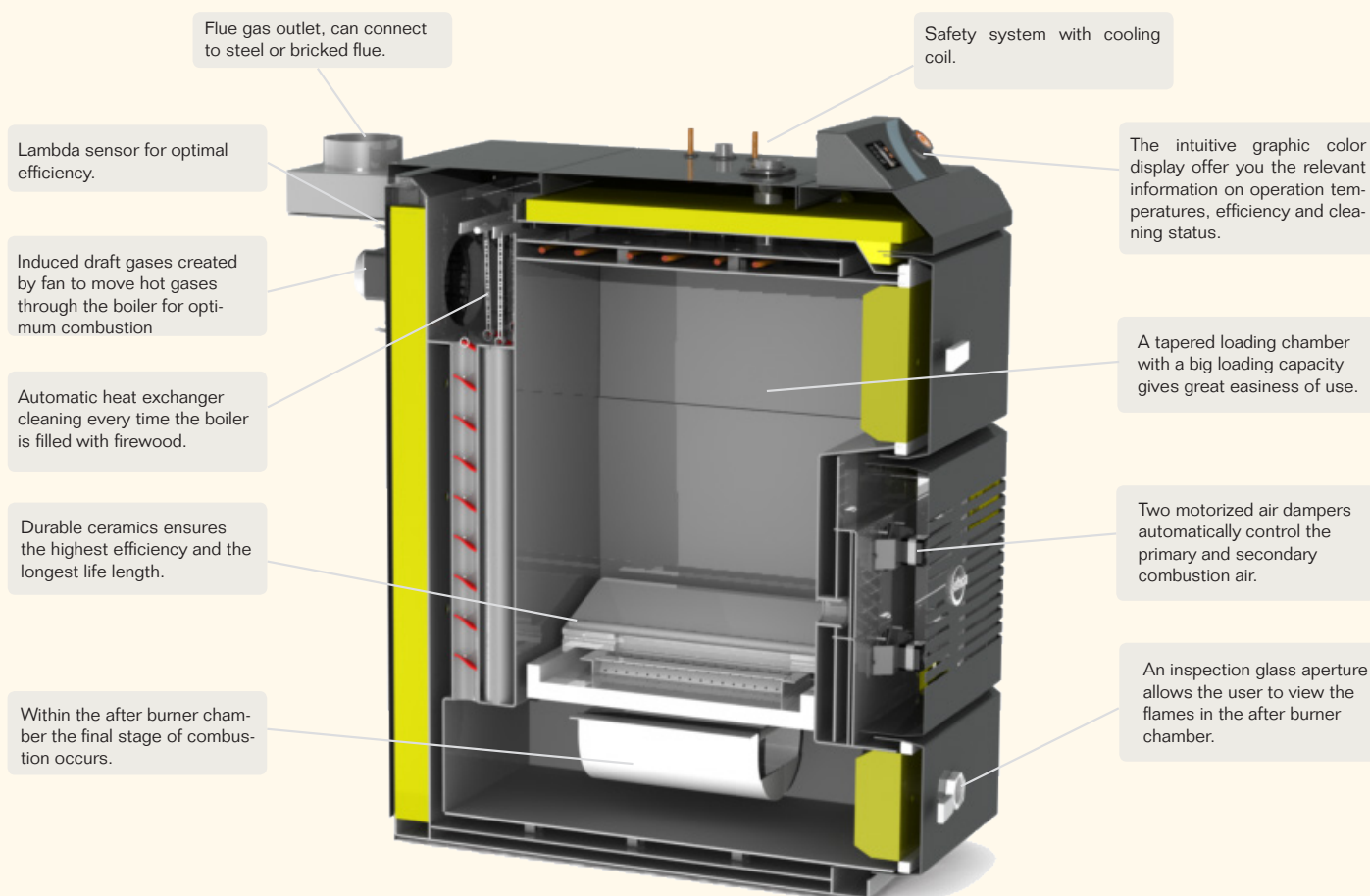
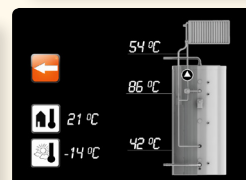
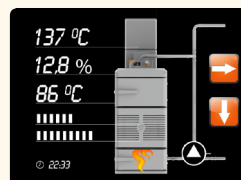
Switch the doors to match the boiler room

#### AUTOMATIC CLEANING

Every time the firewood door is opened to refill fuel the heat exchanger is cleaned automatically

# INTUITIVE CONTROL

On the front of the Effecta Smart there is an integrated graphic display . The controller gives you an instant overview of the boiler's current performance. It is easy to access the boiler's key features and fine tune them with the e-burn system. The controller also enables individual control of different heating circuits. For example one radiator system and one underfloor heating system can be run simultaneously from different climate zones and settings. The controls can be setup in a great variety of ways via a room sensor based on indoor temperature or an outdoor sensor to offer weather compensation based on the temperature outside. You may also use a room sensor in combination with weather compensation. Alternatively, a constant flow temperature can be sent to an underfloor heating manifold with an existing controller. Ask your Effecta partner what the Smart can do for your homes heating!



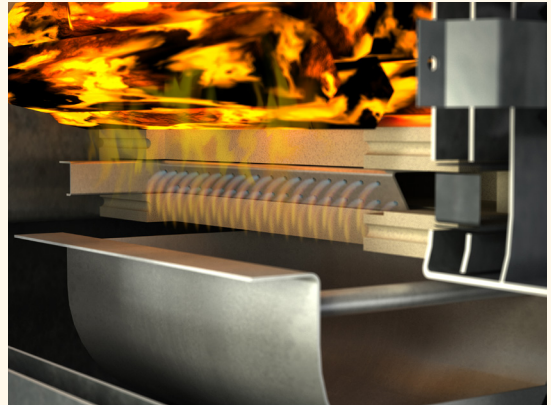
"We strive to make our products easy to use, highly efficient and, above all, environmentally sustainable"

# COMBUSTION & GASIFICATION

## Primary & Secondary stage combustion

This might be your first gasification boiler, if so welcome to the world of pure and efficient firewood heating! The gasification process is very simple and done in two stages, primary (upper chamber) and secondary (lower chamber). In the upper chamber of the boiler the gasification process is done, as gasses are produced for fire they are induced downwards through a ceramic insert where more oxygen is introduced to the hot combustible gases and a secondary stage of combustion occurs, the secondary stage of combustion is very hot and efficient, the flames will reach about 2000° F. The mix between primary air for gasification and secondary air to burn of the gases is a precise mix and very important to have a efficiecnt combustion using all the created gases, during different phases of the firing from a firewood fill this mix will vary, this is why we use a Lambda sensor on the Effecta Smart to make sure that we always have the perfect mix and perfect combustion without you having to worry about your boiler or its current operation.

- Automatic and Smart!



## Why do i need an accumulator?

The accumulator is the heart of a highly efficient firewood heating system. From the accumulator heating for your house as well as hot water for your taps and showers are provided. The accumulator has a volume big enough to store energy to be used at a later stage, that can be when you want to have a shower or the temperature outside drops and there is a greater need for heat. An accumulator will maximize the user friendliness of firing firewood, an ideal scenario is that the boiler only needs one fill per day during cold winter. Using firewood will then take a minimum of your precious time in account but still give you the convenience of a automatic oil boiler since heat and hot water always is present in the heart of the heating system. On top of that the boiler will be able to operate at full output where the efficiency is really high instead of smoldering down the effect with bad combustion as a result.



"The accumulator tank is the heart of your heating system, storing energy to be used at a later stage"

# EFFECTA ENERGY SOLUTIONS AB

## Who are Effecta?

Effecta is a Swedish producer of firewood boilers, pellet boilers and solar systems. Effecta was founded 1982 and the very first product was a cord wood log boiler, ever since firewood boilers has been the backbone of our product portfolio. Besides the biomass range of Wood log boilers and Pellet products we have a wide range of solar thermal systems as well as Solar Photovoltaic products. We are market leaders in many of our fields and are known to be innovative with a great understanding of system functions, not just single products. Our motto is that one component cannot perform better than the worst component in the heating system.

We have been selling products to the US market for many years now and for us there is a clear connection between scandinavian firewood heating and US firewood heating given the heritage of using firewood as a heating tradition. Effecta products are sold and listed in Sweden, Denmark, Norway, Finland, Germany, Spain, France, U.K., Slovenia and USA among others.

## R&D and production

Over at Effecta we take great pride in having our own R&D in house and also production done in Sweden utilizing Swedish steel which is known to be one of the best qualities of steel in the world. We take pride in our products and want to provide the customers choosing our products with the best user experience available.

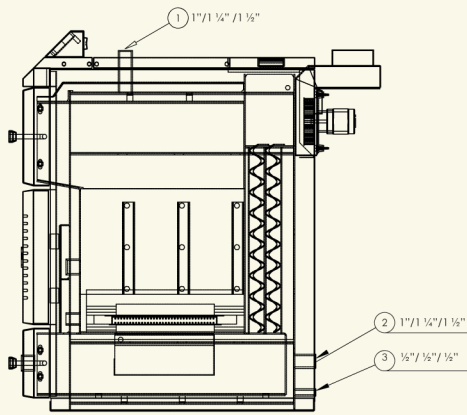
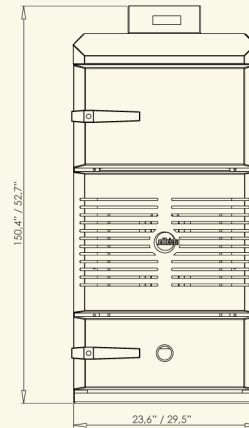
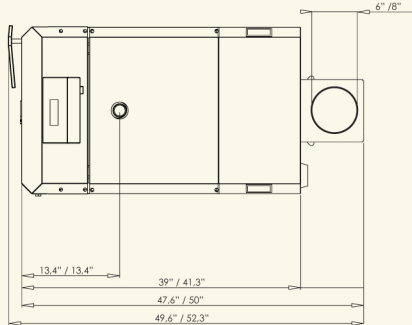


"Some nice words on why to buy Effecta"

# TECHNICAL SPEC.

## Explanation of figures

1. Supply feed & expansion
2. Supply return
3. Drain



## Effecta Smart

40/55

### Technical data

	40	55
Output	136.500 btu/hr	188.000 btu/hr
Height	50,4 inches	52,7 inches
Width	23,6 inches	29,5 inches
Depth incl. smoke outlet	49,6 inches	52,4 inches
Depth of firebox	21,6 inches	21,6 inches
Volume of loading compartment	5.2 ft <sup>3</sup>	6,9 ft <sup>3</sup>
Floor to center smoke pipe	50,7 inches	53,7 inches
Dimension of elbow	5,9x5,9x25 inches	5,9x7,1x25 mm
Smoke outlet	6 inches diameter	8 inches diameter
Weight	880 lbs	1190 lbs
Water content	23,7 gallons	35,6 gallons
Minimum area of flue	6 inches diameter	7 inches diameter
Max log length	20 inches	20 inches
Power	110–60 Hz	110–60 Hz
Supply/Return tappings	1 1/4 inch	1 1/2 inch
Connection to drain	1/2 inch	1/2 inch
Efficiency (EN 303-5 LHV)	92%	91%
Maximum operating pressure	43 psi	43 psi
Maximum operating temperature	212°F	212°F

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