



AVENGER™

Fully Condensing
Stainless Steel
Firetube Boilers
& Water Heaters



AVENGER

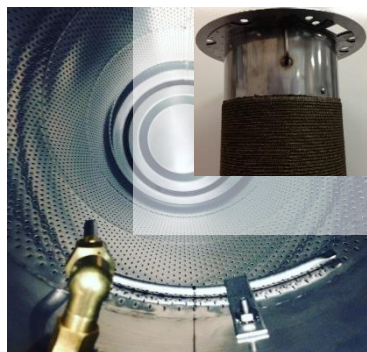
Advanced and Proven Controls

The Avenger will utilize the integrated Honeywell SOLA.

It features a 7" color touch screen, provides remote operation through 4-20mA or 0-10Vdc for set point or fire rate control. The controller has the ability to control multiple pump operation along with integration of up to 8 boilers on a lead-lag configuration and implementation of an outdoor reset schedule. Up to 8 SOLA devices may be monitored and controlled with one single display, permitting ease of integration with a building management system. The SOLA control is Modbus RTU ready and capable of alternative protocols through the use of a gateway. Camus customers who have implemented a condensing boiler system that is operating a SOLA controller, can now seamlessly integrate an Avenger boiler into their Lead-Lag sequence.



Boiler efficiency starts with the burner



The Avenger utilizes a 100% stainless steel burner with a dual gas train, which due to its design, is able to maintain efficiency and low NOx. The burner is designed to combust a precise amount of premixed combustion air and gas to provide equal distribution of heat throughout the entire heat exchanger. The stainless steel burner has increased resistance to temperature induced stresses, while still providing reliable heat transfer, smooth operation and stable flame signal even at very low outputs. Premix technology in combination with a condensing heat exchanger maximize the efficiency and limit emissions.

Standard Features

- 160 PSI working pressure
- Fully welded construction with stainless steel pressure vessel, tubes, tube sheets and combustion chamber
- Modulating burner with up to 25:1 turn-down
- ASME "H" and "HLW" stamped heat exchanger
- Operating pressure as low as 12 PSI
- Natural or propane gas operation
- Radial fired knitted fiber stainless steel burner
- Variable frequency drive (VFD) modulation
- Modbus RTU standard, Protocol Translator available for other communication needs
- Low NOx operation
- Sealed combustion
- Return water temperatures as low as 40°F
- Inherent O2 trim
- 1 to 1 air/gas ratio control for proper combustion across entire modulation range
- Rear Connections; water, gas, vent and electric
- Local/Remote switch for building management, remote modulation and set-point control
- SOLA Controller featuring cascade controls-lead lag up to 8 boilers on a single system

Advanced Heat Exchanger Design and Technology

The Avenger is constructed using 100% stainless steel. The superior two-pass firetube design reduces the cost of manufacturing, maintains performance, quality standards and maximizes efficiency.

The first pass of the heat exchanger consists of stainless steel rifled tubes. The spiral design increases the turbulence within the tube, which optimizes the velocity of the combustion gases, increasing the heat transfer and efficiency of the boiler.



The second pass features a stainless steel oblong tube, which has a larger diameter compared to the rifle tubing. The oval design allows us to extract the latent heat from the flue gases, creating condensate in the process.

The larger diameter tubes help the condensation to rain down the condensation chamber without restricting the tubes and effecting combustion.

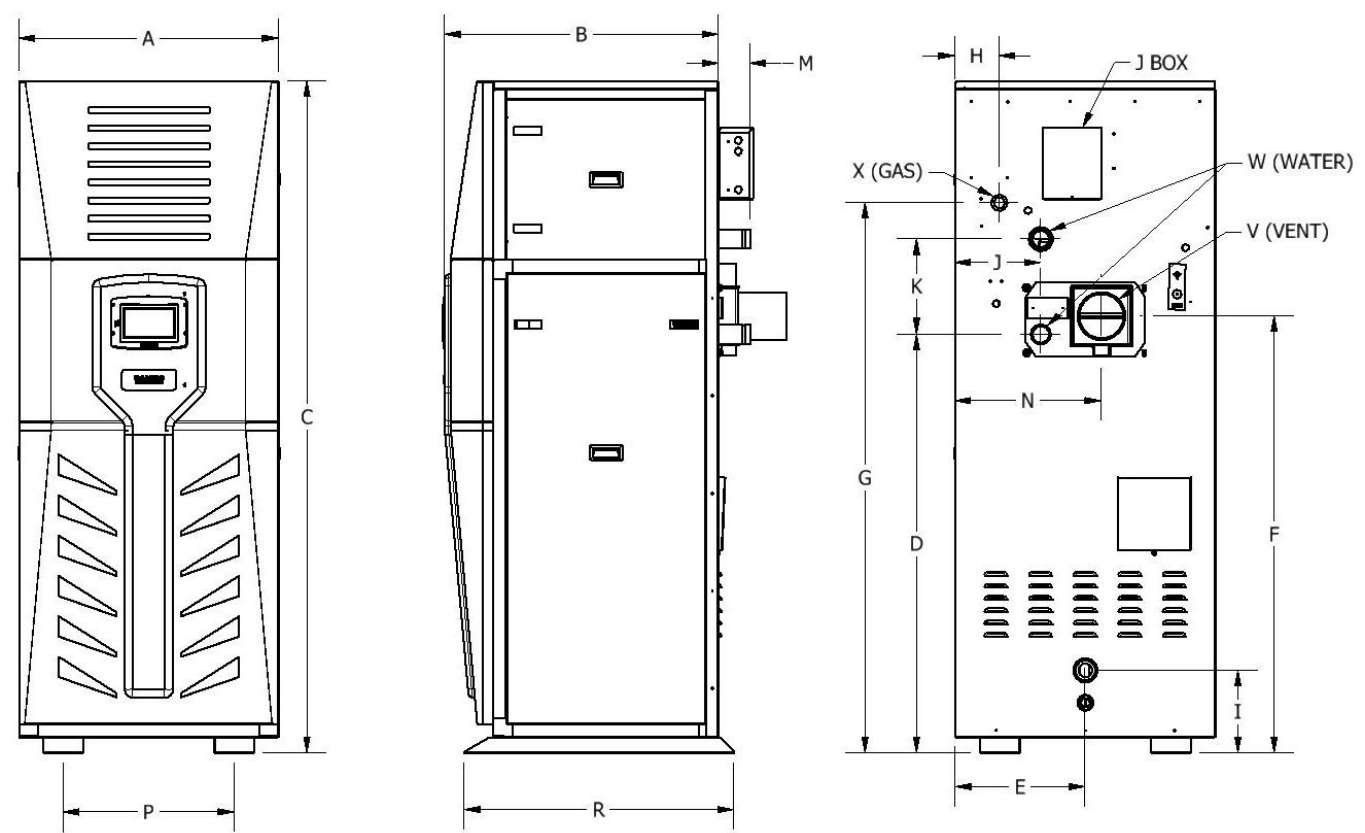
The oblong tube optimizes the condensing process by allowing the condensate to freely flow to the condensate tray.



Dimensions and Specifications

Model	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"M"	"N"	"P"	"R"	"W" (Dia.) Water	"X" (Dia.) Gas
1000	32	34	83	51 ½	16	54	68 ½	5 3/8	10	10 ½	11 ¾	19	18	21	33	2	1 ¼
3500	35	44	99	54 ½	17 ½	60 ¼	76	5	10 3/8	8 3/8	14 5/8	25 ½	20 ½	24	42 ½	4	2
4000	35	44	99	53 3/8	17 ½	60	76	5	10 3/8	8 3/8	16	25 ½	20 ½	24	42 ½	4	2 1/2

Dimensions are in Inches



Model	Air Inlet up to 100 ft. Equiv. Length (Required)	Dia. Dim. "V" Vent – As Shipped	CAT IV up to 100 ft. Equiv. Length	Dia. Dim. "V" Vent CAT II
1000	6	6	6	7
3500	10	10	10	12
4000 (Natural Gas)	10	10	10	12
4000 (Propane)	10	10	10	14

Dimensions are in Inches

Camus Hydronics is taking a leading role in the development of environmentally friendly products through innovative engineering as we incorporate the very latest technologies designed to create higher efficiency levels while lowering emissions.

Camus is continually setting new benchmarks of excellence through skillfully engineered and solidly constructed high-efficiency products designed to provide years of reliable service and comfort.

Additional specifications can be obtained by visiting our website or by contacting your local Camus representative.



View our entire line of products at www.camus-hydronics.com