



**Typical Specifications For
Modulating MicoFlame – Hydronic Heating Boilers
Models MF(N),(P)H 400 – 600, Non-Condensing
Models MF(N),(P)H 402 – 602, Condensing**

The heating boiler shall be a CAMUS MicoFlame model _____ having an input rating of _____ Btu (kw) /hr. and _____ Btu (kw)/hr output for hydronic heating and shall be operated on Natural gas or L.P. gas. The boiler shall be capable of firing down to 35% of rated input.

The heating boiler shall be design/certified by CSA International and shall meet the requirements of ANSI Z21.13b-2007 & CSA 4.9b-2007. The heating boiler shall be optionally vented as a Category I conventional appliance or a category II condensing appliance.

Combustion Chamber:

The combustion chamber shall be fully enclosed by high temperature fiberboard refractory, which is of modular interlocking construction for ease of replacement.

Burner:

The burner shall be constructed of high heat temperature Stainless Steel with knitted metal fiber to provide modulating firing rates. The burner shall provide equal distribution of heat through the entire heat exchanger. A window view port shall be provided for visual inspection of the boiler during firing.

Heat Exchanger:

The heat exchanger shall be suitable for a M.A.W.P. of 160 psig (1100 kPa) and shall be of a two pass design employing integrally finned 7/8" copper tubes. All castings shall be bronze. A pressure relief valve of _____ lb/hr shall be furnished with the heater. There shall be ready access to the heat exchanger to permit internal and external inspection and cleaning of the tubes.

Controls:

Standard controls to include factory mounted hi-limit and operator controls, on/off switch and 24 VAC class 2 transformer and light display package. The SmartFlame 78-0017 electronic modulating control to be accurate to 1°F (0.5°C). The control shall also provide readouts of inlet/outlet temperatures and delta T as well as accumulated run hours. The control shall have 8 preset modes to allow operation of the heater as hydronic heating, DHW or remote operation through an analog 0-10VDC signal.

On/off switch and full diagnostic light package are included. Flow switch is included loose.

Firing Mode:

The heater shall operate as a fully modulating unit with a 3 to 1 turn down ratio.

Gas Train:

The gas train shall consist of an one-to-one air/gas ratio control valve with venture, dual main gas valve seats, a pilot valve and pilot regulator.

Ignition Module:

The ignition module shall provide for proved ignition of intermittent pilot. Trial for ignition shall be a minimum of 15 seconds with 5 minutes between retrials.

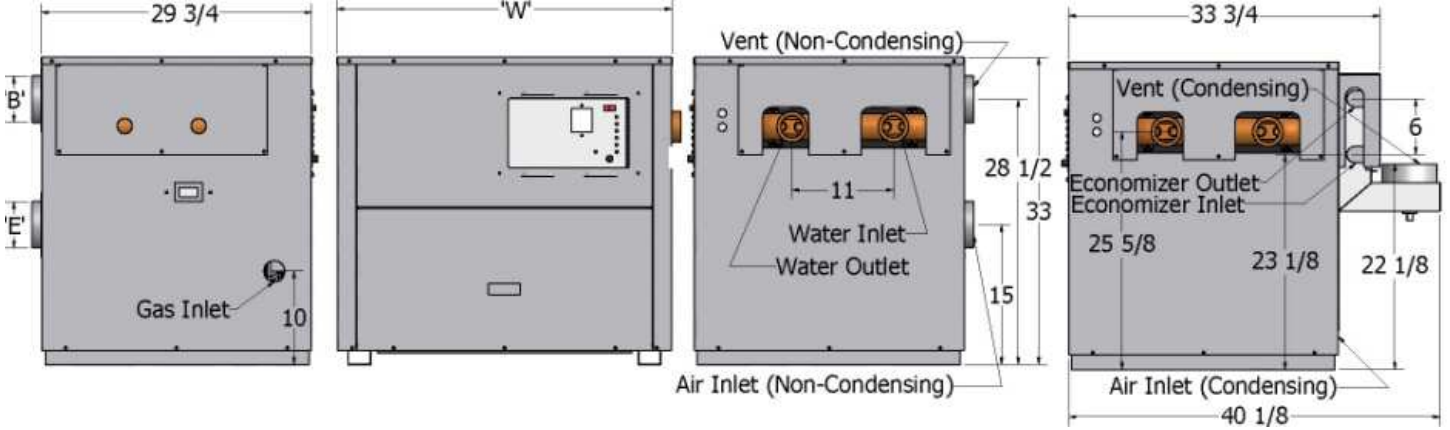
External Jacket and Fasteners:

The external jacket shall be of stainless and enameled steel panels assembled with crimpite non-strip self tap screws.

SUBMITTAL DATA SHEET – MICROFLAME

Engineer: _____ Job Location: _____ Date: _____
 Prepared by: _____ Buyer's Name: _____ Quote #: _____
 Job Name: _____ Buyer's Address: _____

Model 400 – 600 Non-Condensing, 402 – 602 Condensing



Side View (Left)

Front View

Side View (Right)

Side View (Right) Condensing

Input & Output Range

Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Non-Condensing		Condensing	
			Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
400/402	140-399	41.2 - 116.8	339,150	99.3	379,050	110.9
500/502	175 - 500	51.5 – 146.4	425,000	124.5	475,000	139.1
600/602	210 - 600	61.8 - 176.5	510,000	149.3	570,000	166.9

Dimensions & Specifications

Model	'W'	Water Connection	Gas Connection	Approx. Weight	
				Non-Condensing [lbs.]	Condensing [lbs.]
400/402	31 1/2	2	1	290	310
500/502	31 1/2	2	1	305	345
600/602	36 1/2	2	1	360	400

Heat Exchanger Head Loss & Flow

Model	10°F		20°F		30°F	
	USGPM	ΔP-ft.	USGPM	ΔP-ft.	USGPM	ΔP-ft.
400/402	68.0	2.00	34.0	0.55	22.7	0.260
500/502	85.0	3.00	42.5	0.76	28.3	0.390
600/602	102.0	4.30	51.0	1.15	34.0	0.550

Venting

Model	'B' Dia. Venting**			'E' Dia.
	Outdoor	Sidewall or Condensing*	Standard	Air Inlet*
400/402	5	5	6	5
500/502	6	6	7	6
600/602	6	6	7	6

*50 Ft Equivalent

**Non-Condensing models are shipped with standard diameter vent opening size unless sidewall venting is specified

Model # _____ # Of Units _____ Type of Gas _____

Total Input _____ BTU/hr	Flow _____ USGPM @ Allowable Pressure Drop _____ ft.
Total Output _____ BTU/hr	Recovery Rate _____ USGPH @ _____ °F

Optional Accessories _____

