



**Typical Specifications For  
Modulating MicoFlame - Hydronic Heating Boilers  
Models MF(N),(P)H 60 – 300, Non-Condensing  
Models MF(N),(P)H 62 – 302, 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 a one to one air/gas ratio control valve with venturi, dual main gas valve seats, a pilot valve and pilot regulator.

**Ignition Module:**

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

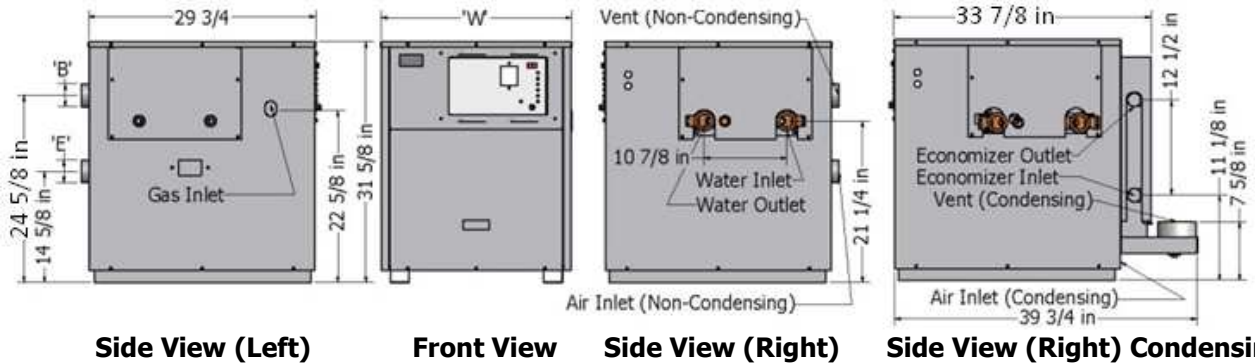
**External Jacket and Fasteners:**

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

# SUBMITTAL DATA SHEET – MICROFLAME

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

## Modesl 60 – 300 Non-Condensing, 62-302 Condensing



### Input & Output

Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Non-Condensing		Condensing	
			Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
60/62	21 - 60	6.1 - 17.6	51,000	14.9	57,000	16.7
100/102	35 - 100	10.2 - 29.3	85,000	24.9	95,000	27.8
150/152	53 - 150	15.5 - 43.9	127,000	37.2	142,500	41.7
200/202	70 - 199	20.5 - 58.2	170,000	49.8	190,000	55.6
250/252	88 - 250	25.8 - 73.2	212,500	62.2	237,500	69.5
300/302	105 - 299	30.7 - 87.5	255,000	74.7	285,000	83.5

### Dimensions & Specifications

Model	'W'	Water Connection	Gas Connection	Approx. Weight	
				Non-Condensing [lbs.]	Condensing [lbs.]
60/62	18 3/4	1 1/2	1/2	190	230
100/102	18 3/4	1 1/2	1/2	195	235
150/152	18 3/4	1 1/2	1/2	200	240
200/202	18 3/4	1 1/2	1/2	210	250
250/252	25	1 1/2	3/4	225	285
300/302	25	1 1/2	3/4	240	290

### Heat Exchanger Head Loss & Flow

Model	20°F		30°F		35°F	
	USGPM	ΔP-ft.	USGPM	ΔP-ft.	USGPM	ΔP-ft.
60/62	10.2	0.03	5.1	0.01	3.4	0.005
100/102	17.0	0.07	8.5	0.02	5.7	0.010
150/152	25.5	0.20	12.8	0.04	8.5	0.030
200/202	34.0	0.40	17.0	0.08	11.3	0.050
250/252	42.5	0.65	21.3	0.16	14.2	0.100
300/302	51.0	1.50	25.5	0.49	17.0	0.190

### Venting

Model	'B' Dia. Venting**			'E' Dia.
	Outdoor	Sidewall or Condensing*	Standard	Air Inlet**
60/62	3	3	3	3
100/102	3	3	4	3
150/152	3	3	4	3
200/202	4	4	5	4
250/252	4	4	5	4
300/302	5	5	6	5

**\*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 \_\_\_\_\_