



**Typical Specifications For
Modulating MicoFlame - Hydronic Heating Boilers
Models MF(N),(P)H 800 – 2000, Non-Condensing
Models MF(N),(P)H 802 – 2002, 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 40% 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. Maximum input per burner shall be 1,000,000 BTU/hr.

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^oF (0.5^oC). 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 5:2 turn down ratio (Models 800 – 2000).

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.

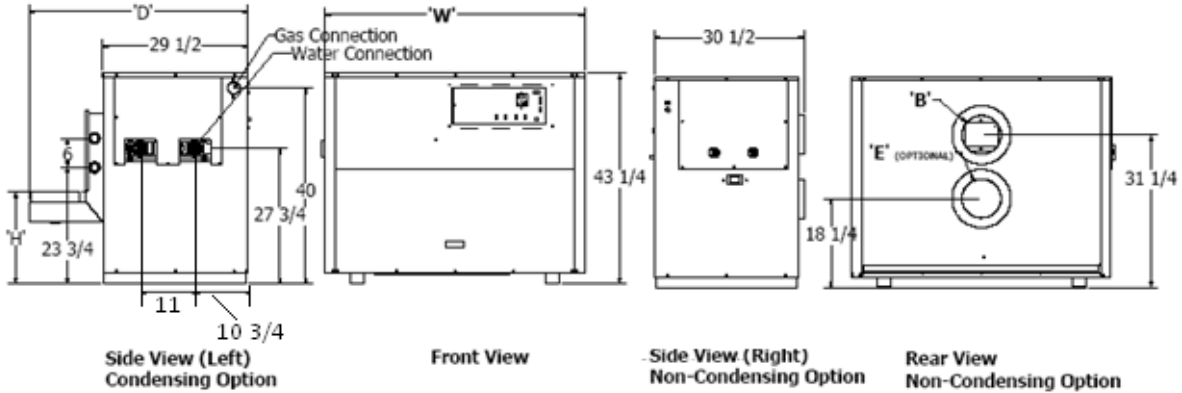
External Jacket and Fasteners:

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: _____

Model 800 – 2000 Non-Condensing, 802 – 2002 Condensing



Input & Output Range

Model	Input Range [kBTU/hr x 100]	Input Range [kW]	Input [BTU/hr]	Input [kW]	Non-Condensing		Condensing	
					Output [BTU/hr]	Output [kW]	Output [BTU/hr]	Output [kW]
800/802	320 - 800	93.7 - 234.3	800,000	234.3	680,000	199.1	760,000	222.5
1000/1002	400 - 1000	117.1 - 292.8	1,000,000	292.8	850,000	248.9	950,000	278.2
1200/1202	480 - 1200	140.5 - 351.3	1,200,000	351.4	1,020,000	298.7	1,140,000	333.8
1400/1402	560 - 1400	164.0 - 410.0	1,400,000	410.0	1,190,000	348.5	1,330,000	389.5
1600/1602	640 - 1600	187.4 - 468.5	1,600,000	468.5	1,360,000	398.2	1,520,000	445.1
1800/1802	720 - 1800	210.8 - 527.1	1,800,000	527.1	1,530,000	448.0	1,710,000	500.7
2000/2002	800 - 2000	234.2 - 585.7	2,000,000	585.7	1,700,000	497.8	1,900,000	556.4

Venting

Model	'B' Dia. Venting**			'E' Dia.
	Outdoor	Sidewall or Condensing*	Standard	Air Inlet*
800/802	8	8	10	8
1000/1002	8	8	10	8
1200/1202	10	10	12	10
1400/1402	10	10	12	10
1600/1602	12	12	14	12
1800/1802	12	12	14	12
2000/2002	12	12	14	12

*60 ft equivalent, Appliance may be provided with two openings which can be combined into this size.
 **Non-Condensing models are shipped with standard vent opening size unless sidewall is specified

Dimensions and Specifications

Model	'W'	'D'	'H'	Water Connection	Gas Connection	Approx. Weight	
						Non-Condensing [lbs.]	Condensing [lbs.]
800/802	45 3/4	44 1/2	18 3/4	2 1/2	1	500	580
1000/1002	52 3/4	44 1/2	18 3/4	2 1/2	1 1/4	610	690
1200/1202	62	44 1/2	23 1/4	2 1/2	1 1/4	732	828
1400/1402	71 1/4	46 1/2	23 1/4	2 1/2	1 1/4	854	966
1600/1602	80 3/4	46 1/2	23 1/4	2 1/2	1 1/4	976	1,104
1800/1802	89 3/4	46 1/2	23 1/4	2 1/2	1 1/4	1,098	1,242
2000/2002	99	46 1/2	23 1/4	2 1/2	1 1/4	1,220	1,380

Heat Exchanger Head Loss & Flow

Model	20°F		30°F		35°F	
	USGPM	ΔP-ft.	USGPM	ΔP-ft.	USGPM	ΔP-ft.
800/802	66.6	2.8	44.4	1.1	38.0	0.8
1000/1002	83.3	4.9	55.5	2.0	47.6	1.5
1200/1202	100.0	6.9	66.7	3.1	57.1	2.4
1400/1402	***	***	77.8	4.3	66.7	3.4
1600/1602	***	***	88.9	5.4	76.2	4.0
1800/1802	***	***	100.0	6.9	85.7	5.1
2000/2002	***	***	***	***	95.2	6.2

*** Contact Camus for recommendation

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 _____