



Typical Specifications For DynaFlame Hydronic Heating Boilers Models DF(N),(P)H 1500 - 3000 Models DF(N),(P)H 1502 - 3002

The heating boiler shall be a CAMUS DYNAFLAME model _____ having an input rating of _____ Btu (kW) /hr. and _____ Btu (kW)/hr output for hydronic heating.

The heating boiler shall be design certified by CSA International and shall meet the requirements of ANSI Z21.13, and CSA 4.9. The heating boiler shall be vented as a Category I non-condensing appliance or Category II condensing appliance.

Combustion Chamber:

The combustion chamber shall be fully enclosed by a stainless-steel chamber inside of which is assembled a cylindrical copper coil Heat Exchanger having a maximum allowable working pressure of 160 psig (1100 kPa). An access door shall be provided for ease of service and inspection of the Heat Exchanger.

Burner:

The burner shall be constructed of stainless steel. 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 inspected and tested to A.S.M.E. Section IV requirements. The A.S.M.E. Section IV seal of approval will not be provided as standard for jurisdictions not requiring the A.S.M.E. Section IV seal of approval. The heat exchanger shall be a four-pass heat exchanger with maximum working pressure of 160 psig (1100 kPa). The heat exchanger is of cylindrical design, with integral copper finned tube $\frac{7}{8}$ " I.D., 0.064" minimum wall thickness, 7 fins per inch, with nominal fin height of $\frac{3}{4}$ ". Each end of the tubes shall be expanded by mechanical rolling process into the headers. The heat exchanger shall be gasket-less. All header castings shall be bronze. A pressure relief valve of _____ lb/hr shall be furnished with the heater.

Controls:

Standard controls include an electronic proportional integrated combination limit/operator control accurate to 1°F (0.5°C) having a 4-20 mA output signal suitable for control of a variable frequency motor drive. The control shall also provide readouts of boiler target, differential and inlet/outlet temperatures as well as accumulated runtime. On/off switch, and full diagnostic light package shall be provided. The complete control package shall be mounted on the front panel with hinged door for easy access to all control modules. A flow switch shall be provided loose.

Firing Mode:

The burner shall operate as fully modulating down to 20% for condensing and 35% for non-condensing application. Light off shall be at no more than 50% input to assure rattle free soft start.

Venting Options

The following venting options shall be utilized: 1. Standard Venting. 2. Horizontal & Vertical Outside air Venting. 3. Through-Wall Venting. 4. Outdoor Venting. 5. Direct Venting.

Gas Train:

The gas train shall consist of a gas valve with a pressure regulating electro-hydraulic actuator to provide slow opening, fast closing, safety shutoff and air/gas ratio control. A factory pre-set combination metering valve and orifice shall be provided for setting combustion parameters.

Ignition Module:

The ignition module shall employ a proved igniter with 3 tries for ignition followed by lockout. Trial for ignition shall be 10 seconds with 15 seconds between retrievals.

External Jacket and Fasteners:

The external jacket shall be of stainless steel mirror finish panels assembled utilizing interference fit locks and minimal non-strip self tap screws.

SUBMITTAL DATA SHEET

DYNAFLAME (HEATING) 1500-3000 and 1502-3002

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

Input & Output (MBTUH)

Model	Non Condensing		Condensing	
	Input	Output	Input	Output
1500/1502	1500	1275	1500	1425
1750/1752	1750	1488	1750	1663
2000/2002	2000	1700	2000	1900
2500/2502	2500	2125	2500	2375
3000/3002	3000	2550	3000	2850

Shipping Weight (lbs.)

Model	Non Cond.	Cond.
1500/1502	578	628
1750/1752	695	745
2000/2002	775	825
2500/2502	875	925
3000/3002	920	970

DynaFlame Non-Condensing

Model	Vent ("V") Diameter Inches			
	Outdoor	Cat III Up to 50 ft	Cat III Up to 100 ft	Cat I
1500	7	7	10	12
1750	7	7	10	12
2000	8	8	12	14
2500	8	8	12	14
3000	8	8	12	14

DynaFlame Condensing

Model	Vent ("V") Diameter Inches			
	Outdoor	Cat IV Up to 50 ft	Cat IV Up to 100 ft	Cat II
1502	7	7	10	8
1752	7	7	10	8
2002	8	8	12	9
2502	8	8	12	9
3002	8	8	12	10

Dimensions Non-Condensing

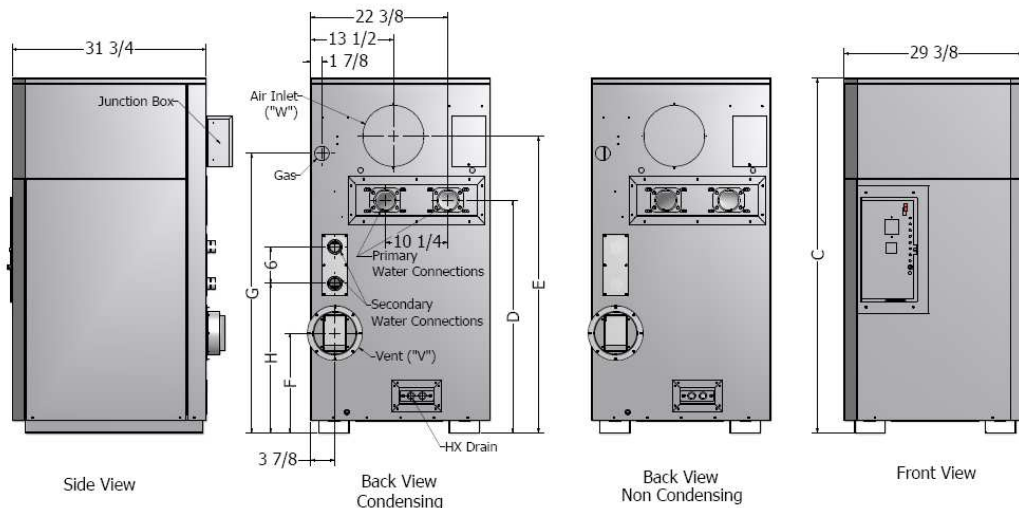
Model	Height Dim. "C"	Water Conn. "D"	Air Inlet "E"	Flue Height "F"	Gas Height "G"	Air Inlet Dia. "W"	Water Conn. Prim. †	Gas Conn. (NPT)
1500	58 1/8"	38 1/4"	48 5/8"	16 3/8"	45 7/8"	10"	2 1/2" NPT	1 1/2"
1750	62 5/8"	42 5/8"	53 1/8"	16 3/8"	50 3/8"	10"	2 1/2" NPT	1 1/2"
2000	66 7/8"	46 7/8"	57 3/8"	20"	53 5/8"	12"	3" NPT	1 1/2"
2500	73 1/2"	52 5/8"	63 5/8"	25 3/4"	60 3/8"	12"	3" NPT	1 1/2"
3000	79 1/2"	58 5/8"	69 5/8"	31 3/4"	66 3/8"	12"	3" NPT	1 1/2"

†For models 1500 - 3000 appliance inlet/outlet connections are 3" NPT.

Dimensions Condensing

Model	Height Dim. "C"	Water Conn. "D"	Air Inlet "E"	Flue Height "F"	Gas Height "G"	"H"	Air Inlet Dia. "W"	Water Conn. Prim. †	Water Conn. Second. (Grooved)	Gas Conn. (NPT)
1502	58 1/8"	38 1/4"	48 5/8"	16 3/8"	45 7/8"	24 1/2"	10"	2 1/2" NPT	1 1/2"	1 1/2"
1752	62 5/8"	42 5/8"	53 1/8"	16 3/8"	50 3/8"	24 1/2"	10"	2 1/2" NPT	1 1/2"	1 1/2"
2002	66 7/8"	46 7/8"	57 3/8"	20"	53 5/8"	28 3/4"	12"	3" NPT	1 1/2"	1 1/2"
2502	73 1/2"	52 5/8"	63 5/8"	25 3/4"	60 3/8"	34 1/2"	12"	3" NPT	1 1/2"	1 1/2"
3002	79 1/2"	58 5/8"	69 5/8"	31 3/4"	66 3/8"	40 1/2"	12"	3" NPT	1 1/2"	1 1/2"

†For models 1500 - 3000 appliance inlet/outlet connections are 3" NPT.



Primary Heat Exchanger Head Loss & Flow

Model	Temperature Rise Across Heat Exchanger			
	30°F		35°F	
	USGPM	ΔP - Ft.	USGPM	ΔP - Ft.
1500/1502	83.9	1.9	71.9	1.4
1750/1752	97.9	2.9	83.9	2.2
2000/2002	111.9	4.1	95.9	3.1
2500/2502	139.9	6.1	119.9	4.6
3000/3002	167.9	8.4	143.9	7.0

Secondary Stainless-Steel Heat Exchanger Head Loss & Flow

Model	*USGPM	ΔP - Ft.
1502	30.0	3.1
1752	35.0	4.2
2002	40.0	5.5
2502	50.0	8.0
3002	60.0	11.5

*Flow for 10°F rise at high fire.

Current drawn by Boiler @ 115 Volts single phase 60 Hz

Models	Max Amps Draw - Boiler Only
1500 thru 2002	11 Amp
2500 thru 3002	14 Amps

Model # _____ # Of Units _____ Type of Gas _____

Total Input _____ BTU/hr	Flow _____ USGPM @ Allowable Pressure Drop _____ ft.
Total Output _____ BTU/hr	

Optional Accessories _____