



Typical Specifications For DynaFlame Domestic Hot Water Supply – Near-Condensing Models DF(N,P)W 0501– 6014

The domestic hot water boiler shall be a CAMUS DYNAFLAME model _____ having a recovery capacity of _____ gph (lph) at 100°F (56°C) rise, for DHW.

The domestic hot water boiler shall be design certified by CSA International and shall meet the requirements of ANSI Z21.10, and CSA 4.3. The domestic hot water boiler shall be vented as a Category II or IV condensing appliance.

Performance Overview:

- Boiler shall operate up to 88% thermal efficiency
- Heat exchanger shall be cylindrical 16 tube (Models 501 – 1201), 28 tube (Models 1501 – 4001), 32 tube (Models 4501 – 5001), 40 tube (Models 4514 – 6014) C12200 copper alloy with cast bronze headers and all gasket-less sealed design, optional C70600 cupronickel alloy is available
- Fine tuned combustion premix providing homogeneous air and gas combustion mix to a radial burner incorporating a knitted stainless steel wrap ensuring stable light off and efficient clean combustion.
- 5:1 gas input turn down ratio with sustained efficient combustion characteristics throughout entire modulating range
- Oxides of Nitrogen (NO_x) of 9 ppm corrected to 3% oxygen.
- Category I venting certification with Category II and Category IV available
- The boiler is fully factory fire tested to obtain optimum combustion characteristics and to establish certified gas input rates.
- System safety and operating devices and controls are fully configured, calibrated and factory tested.
- Models consist of an input range of 500 MBTUH to 6000 MBTUH
- The boiler shall comply with the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard

Combustion Chamber:

The combustion chamber shall be constructed of stainless steel, sealed water tight, chamber to be covered with minimal ¼" thick ceramic insulation. A stainless steel access door shall be provided for ease of service and inspection to the outer heat exchanger surface and an easily removable radial fired knitted fiber stainless steel burner to access the internal combustion chamber for inspection, service, and cleaning. A window view port shall be provided for visual inspection of the boiler combustion during firing.

Heat Exchanger:

The heat exchanger shall be tested and inspected 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 design with a maximum working pressure of 160psig (1100kPa). The heat exchanger is of cylindrical design, with integral copper finned tube ⅞" I.D., 0.064" minimum wall thickness, 7 fins per inch, with nominal fin height of ⅜". 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. The heat exchanger tubes shall be copper alloy C12200 with optional cupronickel alloy C70600 available.

Gas Train:

The gas train shall consist of a pressure regulating electro-hydraulic proportional air/gas main gas actuator providing a slow opening, fast closing shutoff valve and proportional 1:1 air/gas ratio control, a fast closing safety shutoff gas solenoid, and a low gas pressure switch. Optional high gas pressure switch is available. A factory pre-set combination metering valve and orifice shall be provided for setting combustion parameters. Models DF 501 – DF 6014 operate with a 5:1 turndown ratio.

Burner/Combustion:

The combustion air fan draws gas under negative pressure and mixes it with air to generate a fine tuned air gas mixture which is delivered under positive pressure to the radial knitted stainless steel burner. Combustion modulation is established by a variable frequency drive on all models. The burner shall be a 100% stainless steel vertical mounted radial fired type with stainless knitted metal fiber construction. The burner shall combust a precise amount of premixed combustion air and gas to provide equal distribution of heat for heat transfer throughout the entire heat exchanger. Combustion products are exhausted under minimum back pressure. Combustion operates with a 3:1 turn down ratio while sustaining combustion characteristics throughout the entire modulating range. Operation of up to 85% thermal efficiency and shall be certified for Oxides of Nitrogen (NO_x) of 9 ppm corrected to 3% oxygen.

Firing Mode:

The burner combustion shall operate as proportional modulating with a 5:1 turndown ratio with a minimum 20% firing rate. Light off shall be at no more than 50% to ensure a rumble free soft start.

Controls:

Standard controls include a Smartflame electronic proportional integrated combination ignition 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. Control shall be capable of accepting a 0-10VDC signal for remote set point and outdoor reset operation, and have contacts for remote enable/disable of call for heat signal. Optional contacts for remote modulation signal shall accept either a 4-20mA or 0-10VDC. The control shall also provide readouts of boiler target, differential and inlet/outlet temperatures, modulation rate 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.



Typical Specifications For DynaFlame Domestic Hot Water Supply – Near-Condensing Models DF(N,P)W 0501– 6014

Ignition Module:

The ignition module shall employ a proved igniter with 3 tries for ignition followed by a lockout condition for all models. Trial for ignition shall be 5 seconds with 15 seconds between retries. Ignition control shall include times for pre-purge, pre-ignition, ignition, and post purge.

Venting Options:

The following venting options shall be utilized:

- Category II Venting – single or combined vent
- Category IV Outside Air (Horizontal & Vertical)
- Category IV Through-wall Venting (Horizontal & Vertical)
- Outdoor Venting
- Category II & IV Direct Venting

The following Category II and IV vent material shall be utilized:

- Stainless or AL29-4C for all system applications

External Jacket and Fasteners:

The external jacket shall be of 430 stainless steel mirror finish panels and a powder paint coated access top cover assembled utilizing interference fit locks and minimal non-strip self tap screws for ease of removal and access to the heat exchanger and combustion air / gas control.



Typical Specifications For DynaFlame Domestic Hot Water Supply – Near-Condensing Models DF(N,P)W 0501– 6014

Engineer: _____

Job Location: _____

Date: _____

Prepared by: _____

Buyer's Name: _____

Quote #: _____

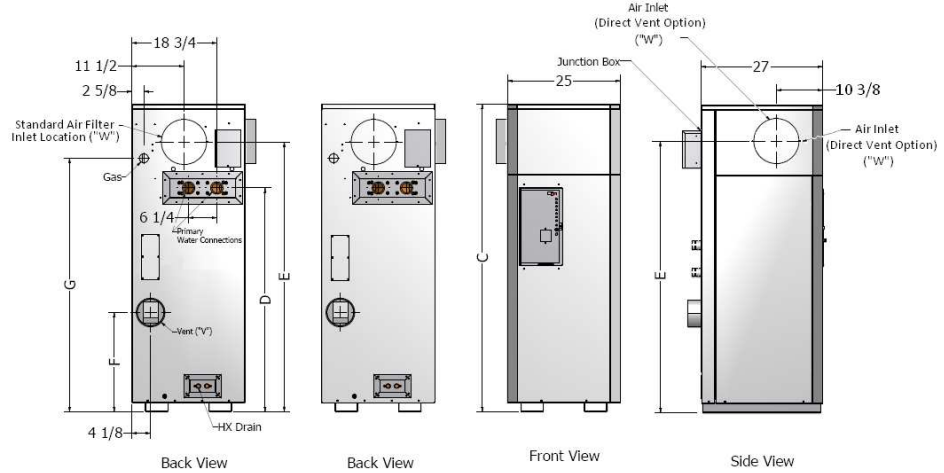
Job Name: _____

Buyer's Address: _____

Input & Output (MBTUH)

DYNAFLAME 0500 – 1200

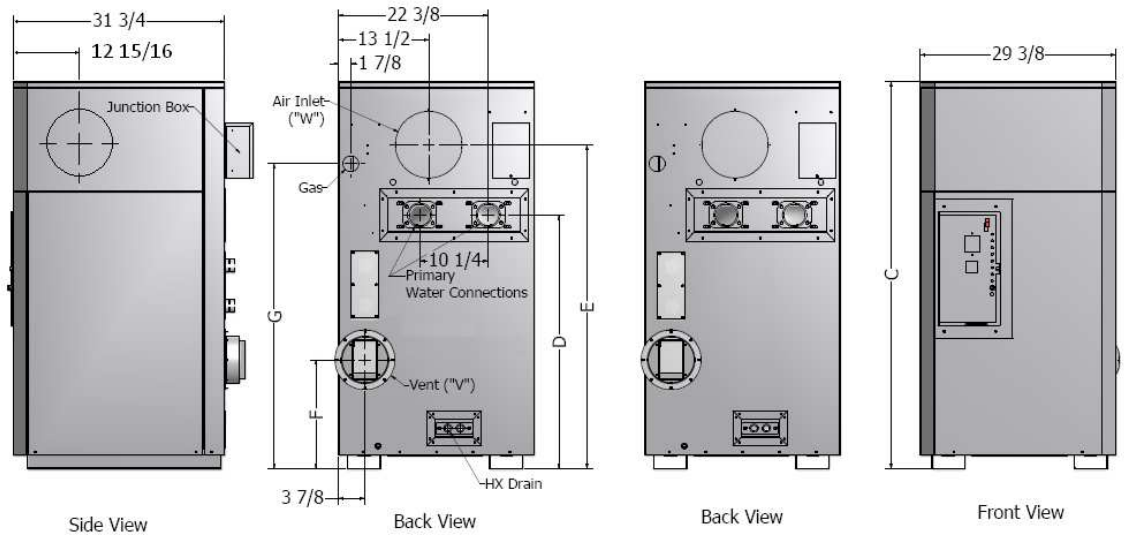
Model	Non-Condensing	
	Input	Output
0501	500	425
0751	750	638
1101	1100	935
1201	1200	1020
1501	1500	1275
1751	1750	1488
2001	2000	1700
2501	2500	2125
3001	3000	2550
3501	3500	2975
4001	4000	3400
4501	4500	3825
5001	5000	4250
4514	4500	3825
5014	5000	4250
6014	6000	5100



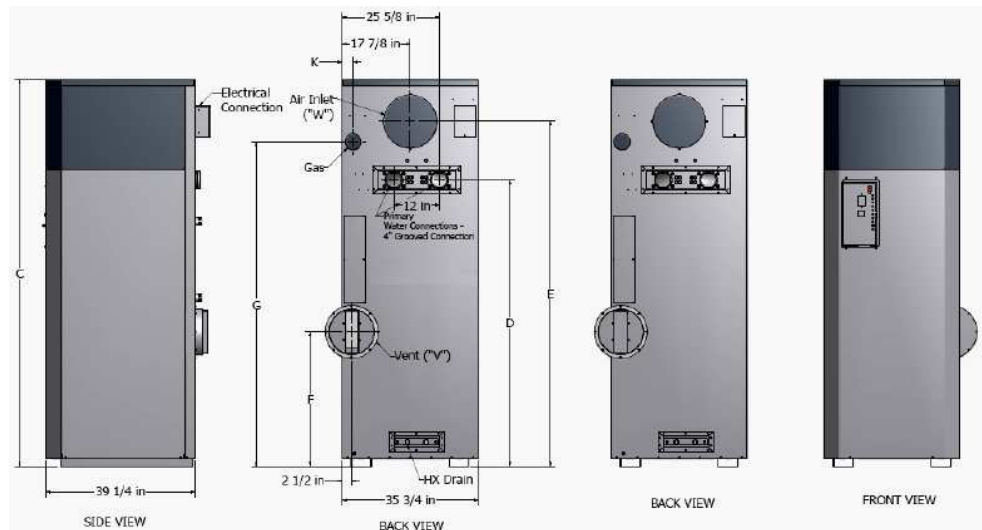
DYNAFLAME 1500 – 5000

Shipping Weight

Model	Non-Condensing
0501	375
0751	400
1101	480
1201	485
1501	578
1751	695
2001	775
2501	875
3001	920
3501	1030
4001	1140
4501	1250
5001	1350
4514	1185
5014	1533
6014	1863



DYNAFLAME MEGA 4504– 6004





Typical Specifications For DynaFlame
Domestic Hot Water Supply – Near-Condensing
Models DF(N,P)W 0501– 6014

Dimensions

Model	Height Dim. "C" [in.]	Water Conn. "D" [in.]	Air Inlet "E" [in.]	Flue Height "F" [in.]	Gas Height "G" [in.]	Air Inlet Dia. "W" [in.]	Water Conn. Prim. [NPT, in.]*	Gas Conn. [NPT, in.]	"K"
0501	45 5/8	27	37 1/4	13 5/8	33 3/4	6	2	1	--
0751	55	36 3/8	46 5/8	15 3/4	43	8	2	1	--
1101	68 1/4	49 5/8	59 7/8	22	56 1/4	8	2	1	--
1201	68 1/4	49 5/8	59 7/8	22	56 1/4	8	2	1	--
1501	58 1/8	38 1/4	48 5/8	16 3/8	45 7/8	10	2 1/2	1 1/4	--
1751	62 5/8	42 5/8	53 1/8	16 3/8	50 3/8	10	2 1/2	1 1/4	--
2001	66 7/8	46 7/8	57 3/8	20	53 3/8	12	3	1 1/4	--
2501	73 1/2	52 5/8	63 5/8	25 3/4	60 3/8	12	3	1 1/2	--
3001	79 1/2	58 5/8	69 5/8	31 3/4	66 3/8	12	3	1 1/2	--
3501	86 1/2	63 5/8	76	24 7/8	72 5/8	14	4	2	--
4001	91 1/2	68 5/8	81	29 7/8	77 5/8	14	4	2	--
4501	96 1/2	73 5/8	86	34 7/8	82 5/8	14	4	2 1/2	--
5001	101 1/2	78 5/8	91	39 7/8	87 5/8	14	4	2 1/2	--
4514	83	59 3/4	72 1/4	20 3/4	67 7/8	14	4 (Grooved)	2 1/2	3 1/2
5014	88 1/4	65	77 1/2	26	72 1/4	14	4 (Grooved)	2 1/2	3 1/2
6014	102	75 1/2	91	35 1/2	85 1/2	14	4 (Grooved)	3	2 3/4

*For Models 1500 – 5000 Appliance Inlet/Outlet Connections are 3" NPT

Recovery Capacity

Model	100°F Rise	56°C Rise	80°F Rise	44°C Rise	60°F Rise	33°C Rise
	GPH	LPH	GPH	LPH	GPH	LPH
0501	527	1995	659	2493	878	3325
0751	790	2990	988	3738	1317	4984
1101	1159	4387	1449	5484	1932	7311
1201	1265	4788	1581	5985	2108	7980
1501	1581	5984	1976	7480	2635	9974
1751	1845	5983	2306	8729	3075	11639
2001	2109	7983	2636	9978	3515	13304
2501	2636	9977	3295	12472	4393	16629
3001	3164	11976	3955	14970	5273	19960
3501	3691	13970	4614	17463	6152	23284
4001	4218	15965	5273	19956	7030	26609
4501	4745	17960	5931	22450	7908	29933
5001	5273	19958	6591	24948	8788	33264
4514	4745	17960	5931	22450	7908	29933
5014	5273	19958	6591	24948	8788	33264
6014	6290	23809	7893	29762	10484	39682

Primary Heat Exchanger Head Loss & Flow

Model	Temperature Rise Across Heat Exchanger			
	30°F		35°F	
	USGPM	ΔP-Ft.	USGPM	ΔP-Ft.
0501	28.0	0.7	24.0	0.5
0751	42.0	1.4	36.0	1.0
1101	61.6	2.7	52.8	2.1
1201	68.0	2.9	58.3	2.2
1501	83.9	1.9	71.9	1.4
1751	97.9	2.9	83.9	2.2
2001	111.9	4.1	95.9	3.1
2501	139.9	6.1	119.9	4.6
3001	167.9	8.4	143.9	7.0
3501	198.1	12.7	169.8	9.5
4001	226.9	17.0	194.5	12.7
4501	254.7	21.9	218.3	16.4
5001	282.9	27.6	242.5	20.7
4514	254.7	15.3	218.3	11.4
5014	282.9	19.6	242.5	14.9
6014	339.5	31.8	291.0	24.1

Near-Condensing Venting

Model	Vent ("V") Diameter Inches			
	Outdoor	Cat. IV Up to 50 ft	Cat. IV Up to 100 ft	Cat. II
0501	4	4	6	5
0751	6	6	8	6
1101	6	6	8	7
1201	6	6	8	7
1501	7	7	10	8
1751	7	7	10	8
2001	8	8	12	9
2501	8	8	12	9
3001	8	8	12	10
3501	9	9	14	12
4001	9	9	14	12
4501	10	10	14	12
5001	10	10	14	12
4514	10	10	14	12
5014	10	10	14	12
6014	12	12	14	12

Current drawn by Boiler @ 115 Volts Single Phase 60 Hz

Model	Max Amps Draw - Boiler Only
0501	7
0751	7
1101	7
1201	7
1501	11
1751	11
2001	11
2501	14

Current drawn by Boiler @ 230 Volts Phase 60 Hz

Model	Max Amps Draw - Boiler Only	Phase
3001	14	Single
3501	16	Single
4001	16	Single
4501	24	Single
5001	18	Three
4514	24	Single
5014	18	Three
6014	18	Three

Model # _____ # Of Units _____ Type of Gas _____
 Total Input _____ BTU/hr Flow _____ USGPM @ Allowable Pressure Drop _____ ft.
 Total Output _____ BTU/hr
 Optional Accessories _____