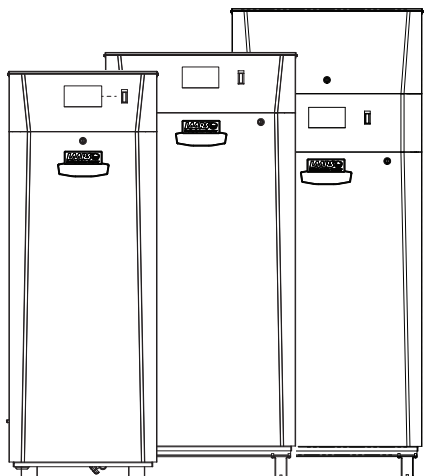


OMNITHERM®



Hydronic Boiler

ONH Hydronic Boiler, CAT I/ III

Indoor/Outdoor, Sizes 1250 - 2500

Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Submittal Data



Project Name:

Location:

Contractor:

Standard Features

- ASME "H" stamp
- 160 psi maximum working pressure
- Certified for Category I fan-assisted and Category III vent
- Cat III horizontal / vertical direct vent
- Cat III vent & air pipe lengths of up to 100 equivalent feet (each)
- Indoor/outdoor
- Low NOx system exceeds the most stringent NOx regulations
- Sophisticated gas/air valve allows for constant control of combustion
- Sealed combustion chamber
- Stainless steel heat exchanger with welded construction
- Pre-mix stainless steel burner
- Electronic PID control with large touchscreen and color display
- Multiple independent heat demands
- Controller cascades with up to eight OmniTherm ONH boilers
- Accepts 4-20ma or 0-10VDC external set point control
- Modbus RTU & BACnet MSTP on board
- Multiple pump control for boiler pump, system pump, and indirect domestic water pump, each with delay
- Indirect water heater priority
- Sensor for indirect DHW tank
- Outdoor reset with air sensor
- High and low gas pressure switches
- Vent temperature cutoff
- Normally open alarm contact
- Air filter
- Water flow switch
- Temperature & pressure gauge
- Low water cutoff
- 75 psi (517kPa) ASME rated pressure relief valve
- Groove lock fittings (optional flange adapter)
- Burner site glass
- 10-Year limited warranty

Boiler Data

Number of Units

Fuel

☐ Natural

Voltage

☐ 120V, single ph (1250-2000)

☐ 208V, single ph (1500-2500)

☐ 220/240V, single ph (1500-2500)

☐ 208V, three ph (2500)

☐ 480V, three ph (2500)

☐ 600V, three ph (2500)

Factory Mounted Options

☐ ASME CSD-1

☐ BACnet IP gateway

☐ LonWorks gateway

☐ Additional auto & manual reset high limit switches

☐ Alarm bell with silence switch

☐ Groove lock to flange connections

☐ 75 psi pressure relief valve (std)

☐ 30 psi pressure relief valve

☐ 50 psi pressure relief valve

☐ 60 psi pressure relief valve

☐ 125 psi pressure relief valve

☐ 150 psi pressure relief valve



Accessories for Field Mounting

- ☐ Gateway for BACnet IP
- ☐ Gateway for LonWorks

- ☐ Cat III horizontal vent terminal
- ☐ Screen for air terminal
- ☐ Vent terminal for outdoor unit
- ☐ Air pipe screen for outdoor unit

- ☐ Condensate neutralizer
- ☐ Condensate neutralizer with pump

Sizing Data

Model	Input Rate		Output Rate		Thermal Efficiency	Combustion Efficiency	Product Weight		Operating Weight		Shipping Weight		Water Content	
	MBH	kw	MBH	kw	%	%	lbs	kg	lbs	kg	lbs	kg	gal	l
☐ 1250	1250	366	1060	311	84.8	84.2	541	246	575	261	741	336	3.8	14
☐ 1500	1500	440	1259	369	83.9	83.3	541	246	575	261	741	336	3.8	14
☐ 1750	1750	513	1472	431	84.1	83.4	947	430	1025	465	1197	543	8.9	34
☐ 2000	1999.9	586	1668	489	83.4	84.0	1030	468	1125	511	1280	581	10.8	41
☐ 2500	2499.9	733	2075	608	83.0	83.0	1030	468	1125	511	1280	581	10.8	41

Clearances

Model	Certified Clearances to Combustibles									
	Front		Back		Left		Right		Top	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
1250-2500	closet*	-	0	0	0	0	0	0	0	0

*With required openings

Model	Suggested Service Clearances									
	Front		Back		Left		Right		Top	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
1250-1500	24	61	24	61	8	20	8	20	18	46
1750-2500	24	61	24	61	8	20	8	20	17	43

Electrical Data

Voltage	1250 Current			1500 Current			1750 Current			2000 Current			2500 Current		
	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP
120V, 1 phase	9.4	11.8	20	9.4	11.8	20	9.2	11.5	20	9.2	11.5	20	N/A	N/A	N/A
208V, 1 phase	N/A	N/A	N/A	4.8	6.0	15	5.0	6.3	15	5.0	6.3	15	5.0	6.3	15
220/240V, 1 phase	N/A	N/A	N/A	4.8	6.0	15	4.8	6.0	15	4.8	6.0	15	4.8	6.0	15
208V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2	6.5	15
480V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.2	2.8	15
600V, 3 phase	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.8	2.3	15

Vent System

Model	Air Collar Size		Ducted Air Pipe Size		Maximum Ducted Air Pipe Length		Vent Collar Size		Typical** Category I Vent Pipe Size		Category III Vent Pipe Size		Maximum Category III Vent Pipe Length	
	inches	cm	inches	cm	ft*	m	inches	cm	inches	cm	inches	cm	ft*	m
1250	6	15	6	15	100	30.5	12	30	12	30	6	15	100	30.5
1500	6	15	6	15	100	30.5	12	30	12	30	6	15	100	30.5
1750	8	20	8	20	100	30.5	14	36	14	36	8	20	100	30.5
2000	8	20	8	20	100	30.5	14	36	14	36	8	20	100	30.5
2500	8	20	8	20	100	30.5	16	41	16	41	8	20	100	30.5

*Equivalent Feet: To calculate, measure the linear feet of the pipe and add 5 ft (1.5m) for each elbow used.

**Category I vent must be sized in the U.S. per the National Fuel Gas Code ANSI Z223.1, or in Canada per CSA B149.1 as a fan-assisted Category I appliance. Pipe sizes shown are typical, but may not meet the requirements of every system.

Notes:

1. Category III vent pipe must be stainless steel complying with UL1738, and properly sealed.
2. Intake air pipe may be single-wall galvanized steel pipe, 24 gauge minimum, and properly sealed.

Water Flow Requirements

Temperature Rise

Model	20°F		25°F		30°F		35°F		40°F	
	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft	Flow gpm	Headloss* ft
1250	106	23.6	85	15.4	71	11.1	61	8.2	53	6.2
1500	126	33.0	101	21.9	84	16.1	72	12.0	63	9.0
1750	147	18.4	118	12.9	98	8.2	84	5.9	74	3.8
2000	167	24.4	133	15.7	111	11.2	95	7.8	83	5.9
2500	207	33.7	166	23.9	138	17.2	119	12.9	104	9.8

*Headloss is for boiler only (no piping)

Temperature Rise

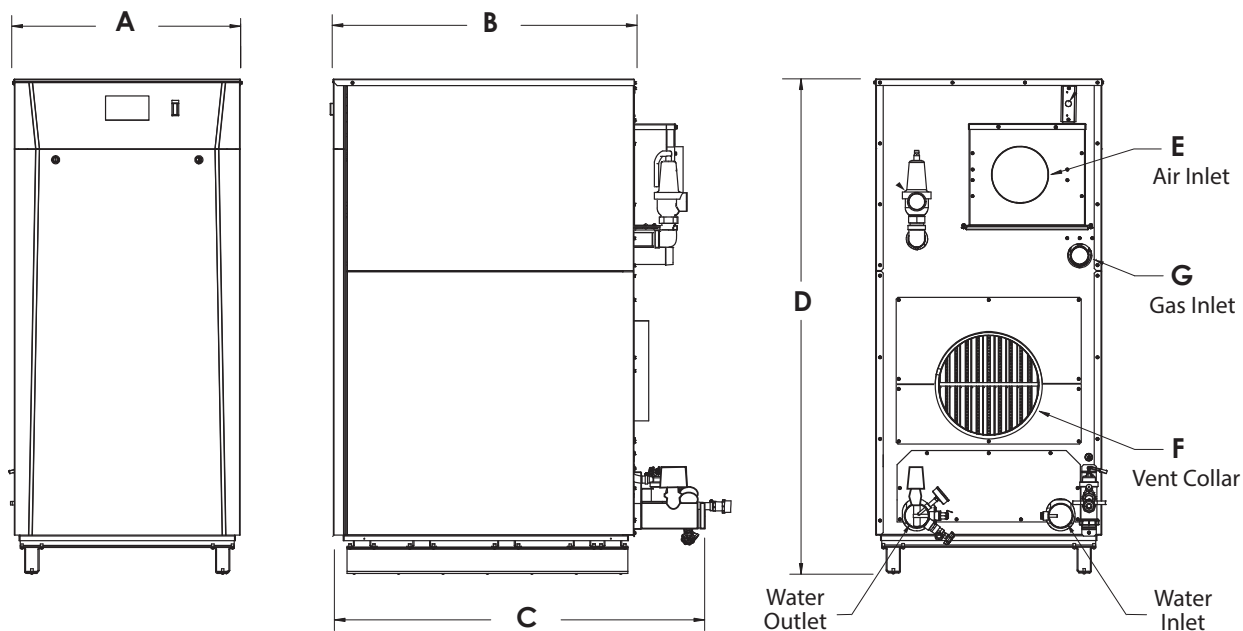
Model	11°C		14°C		17°C		19°C		22°C	
	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)	Flow l/m	Headloss* (m)
1250	401	7.2	321	4.7	268	3.4	229	2.5	201	1.9
1500	477	10.1	381	6.7	318	4.9	272	3.7	238	2.7
1750	557	5.6	446	3.9	371	2.5	318	1.8	279	1.2
2000	631	7.4	505	4.8	421	3.4	361	2.4	316	1.8
2500	786	10.3	628	7.3	524	5.2	449	3.9	393	3

*Headloss is for boiler only (no piping)

Dimensional Data

Model	"A"	"B"	"C"	"D"	"E" Air Inlet Diameter	"F" Vent Collar Diameter	"G" Gas Conn.	Water Inlet & Outlet
	in. (cm)	in. (cm)	in. (cm)	in. (cm)	in. (cm)	in. (cm)	NPT	NPT
1250	24½ (62)	27 (69)	39 (99)	66 (168)	6 (15)	12 (30)	2"	2½"
1500	24½ (62)	27 (69)	39 (99)	66 (168)	6 (15)	12 (30)	2"	2½"
1750	32 (81)	43 (109)	53 (135)	69 (175)	8 (20)	14 (36)	2"	3"
2000	32 (81)	43 (109)	53 (135)	78 (198)	8 (20)	14 (36)	2"	3"
2500	32 (81)	43 (109)	53 (135)	78 (198)	8 (20)	16 (41)	2"	3"

All Models



Laars Heating Systems Company reserves the right to change specifications, components, features, or to discontinue products without notice.