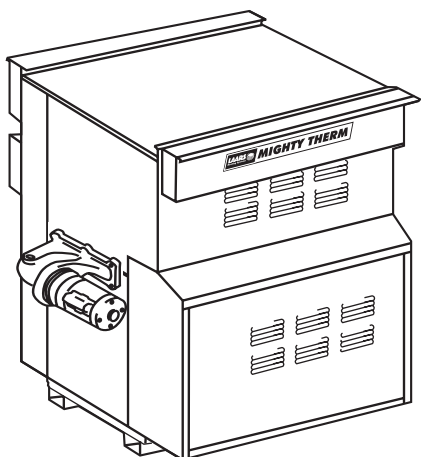


MIGHTY THERM®



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Hydronic Boilers

HH	Hydronic Heating Boiler
PH	Hydronic Heating Boiler with pump

Outdoor Sizes 500-1825

Submittal Data **LAARS**
Heating Systems Company

Project Name:

Location:

Contractor:

Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Certified for outdoor use
- Flanged water connections
- Glass-lined headers
- External water-side gaskets
- 75 psi (517 kPa) ASME rated pressure relief valve
- Pump, mounted and wired (PH)
- Flow switch
- Temperature pressure gauge
- ASME CSD-1
- Manual "A" gas valve
- Manual pilot valve
- Pilot gas regulator
- Operating gas valve / gas pressure regulator
- Redundant safety gas valve
- Stainless steel burners
- Removable burner tray
- Built-in draft hood
- On/off toggle switch
- Power on light
- 115/24VAC transformer
- 24V control system
- 100% shut-off / lock-out ignition control
- 2-Amp fuse
- Terminal strip
- Operating control
- Manual reset high limit
- EM² pump time delay (std on PH, opt on HH)
- Covered control box

Boiler Data

Model:

- ☐ HH (no pump)
☐ PH (pump mounted)

Number of Units:

Firing Rate:

- ☐ On-off
☐ Two-stage
☐ Four-stage
☐ Motorized Modulation

Ignition System:

- ☐ Spark pilot ignition U.S. (system 9)
☐ Spark pilot ignition Canada (system 11)

Fuel

- ☐ Natural
☐ Propane

Heat Exchanger

- ☐ Copper
☐ Cupro-Nickel
☐ Copper, Reversed
☐ Cupro-Nickel, Reversed

Water Trim

- ☐ Glass-Lined Cast Iron
☐ Bronze Trim
☐ Full Bronze

Options:

- ☐ EM² pump time delay (std on PH)
☐ Low water cutoff
☐ Auto reset high limit
☐ External controller connections (n/a for on-off units)
☐ External controller connections with selector switch (n/a for on-off units)
☐ Alarm package with bell, mounted and wired
☐ Alarm package with dry contacts, mounted and wired
☐ High & low gas pressure switches
☐ Additional safety valve
☐ Motorized safety valve with proof of closure
☐ Additional motorized safety valve with proof of closure

Sizing Data

	Outdoor Size	Input¹ BTU/h	Output¹ BTU/h	IBR Net Rating MBTU/h	Shipping Weight² lbs	Input¹ kW	Output¹ kW	IBR Net Rating kW	Shipping Weight² kg
	500	500,000	410,000	357	751	147	120	104	341
	600	600,000	492,000	428	821	176	144	125	373
	715	715,000	587,000	510	906	210	172	149	411
	850	850,000	697,000	606	1000	249	204	178	454
	1010	1,010,000	829,000	720	945	296	243	211	429
	1200	1,200,000	984,000	856	1185	352	288	251	538
	1430	1,430,000	1,173,000	1020	1330	419	344	299	604
	1670	1,670,000	1,370,000	1191	1490	489	401	349	676
	1825	1,825,000	1,497,000	1301	1630	535	439	381	740

NOTES: 1. Input and output must be derated 4% per 1000 feet above sea level when installed above 2000 feet altitude.

2. Units with pumps: Add 55lbs.

3. For other boiler ratings:

$$\text{Boiler Horsepower: HP} = \frac{\text{Output}}{33.475}$$

$$\text{Radiation Surface: EDR sq. ft.} = \frac{\text{Output}}{150}$$

$$\text{IBR sq. ft.} = \frac{\text{Net IBR Rating}}{150}$$

Rate of Flow and Pressure Drop

Design Temperature Rise Across Boiler

Outdoor Size	20°F		25°F		30°F		35°F	
	Water Flow GPM	Head Loss Ft	Water Flow GPM	Head Loss Ft	Water Flow GPM	Head Loss Ft	Water Flow GPM	Head Loss Ft
500	41	1.7	33	1.1	27	0.9	23	0.7
600	49	2.3	39	1.6	32	1.1	28	0.9
715	58	3.2	47	2.2	39	1.6	33	1.1
850	69	3.6	55	3.1	46	2.2	39	1.6
1010	82	5.0	66	3.6	55	3.1	47	2.2
1200	98	6.9	78	4.9	65	3.6	56	3.1
1430	117	9.5	93	6.7	78	5.0	67	3.7
1670	*	*	109	9.1	91	6.8	78	5.0
1825	*	*	119	10.4	99	8.3	85	5.7

Outdoor Size	11°C		14°C		17°C		19°C	
	Water Flow L/M	Head Loss m	Water Flow L/M	Head Loss m	Water Flow L/M	Head Loss m	Water Flow L/M	Head Loss m
500	155	0.5	125	0.3	102	0.3	87	0.2
600	186	0.7	148	0.5	121	0.3	106	0.3
715	220	1.0	178	0.7	148	0.5	125	0.3
850	261	1.1	208	0.9	174	0.7	148	0.5
1010	310	1.5	250	1.1	208	0.9	178	0.7
1200	371	2.1	295	1.5	246	1.1	212	0.9
1430	443	2.9	352	2.0	295	1.5	254	1.1
1670	*	*	413	2.8	345	2.1	295	1.5
1825	*	*	451	3.2	375	2.5	322	1.7

• Not recommended. Consult factory.

Electrical Data

Model	Boiler			Mounted Pump	Pump Delay Connection Rating
	Volts	Phase	Amps		
HH (no pump)	115	Single	Less than 12	N/A	(when ordered optionally) 115V – Max 1HP or 230V – Max 3/4HP (pilot duty)
PH (built-in pump)	115	Single	Less than 12	Included in Mighty Therm connection	Included in Mighty Therm connection

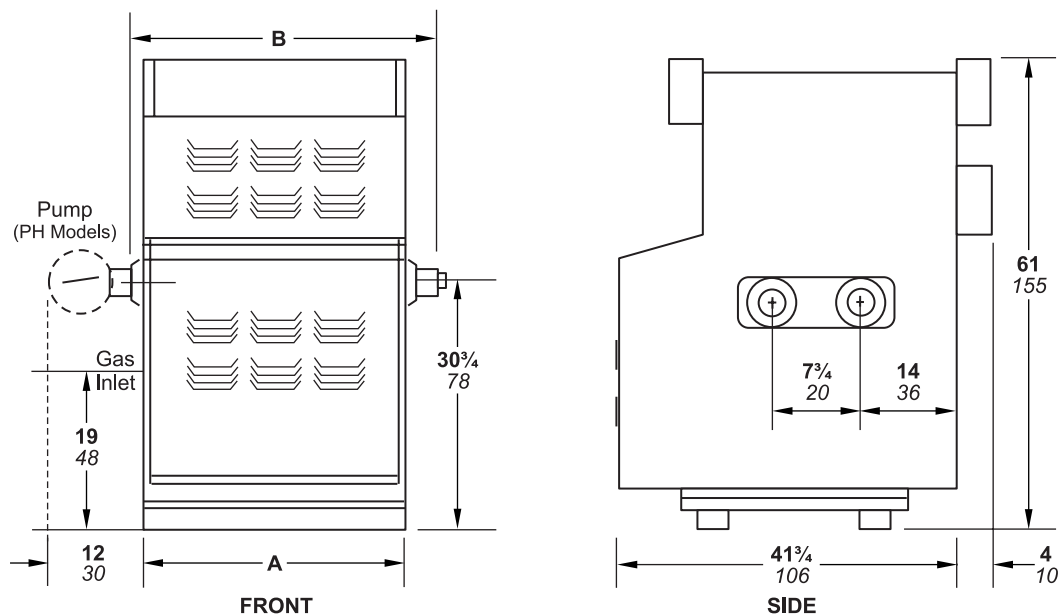
Pump Data

Outdoor Size	Power (HP)	Current (Amps)
500	1/3	2.8
600	1/3	2.8
715	1/3	2.8
850	1/3	2.8
1010	1/2	5.2
1200	1/2	5.2
1430	3/4	7.2
1670	3/4	7.2
1825	3/4	7.2

Clearances

Appliance Surface	Required Clearance From Combustible Material	
	inches	cm
Water Side	24	61
Opposite Side	24	61
Top	—	—
Back	24	61
Front	Open	
Vent	—	—

Dimensional Data



Dimensions shown in inches *cm*.

Outdoor Size	Gas Connection Size, inches NPT		Water Conn. Size in ¹	Dimensions ¹			
	Natural	LP		A		B	
				in	cm	in	cm
500	1	¾	2	33¾	86	45¼	115
600	1	¾	2	38¾	98	50¼	128
715	1	¾	2	44¼	112	55¾	142
850	1	¾	2	50¾	129	62¼	158
1010	1¼	1	2½	58	147	69½	177
1200	1¼	1	2½	66¾	168	77¾	198
1430	1¼	1¼	2½	76	193	87½	222
1670	1¼	1¼	2½	85½	217	97	246
1825	1¼	1¼	2½	92¼	234	103¾	264

NOTE: 1. Dimensions are nominal.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.

