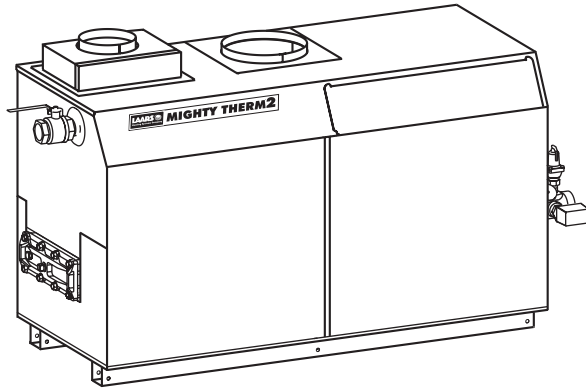


# MIGHTY THERM<sup>2</sup>

# Boiler & Water Heater



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

MT2H	Hydronic Heater
MT2V	Volume Water Heater

Indoor/Outdoor Sizes 500-2000

Submittal Data **LAARS**  
 Heating Systems Company

Project Name:

Location:

Contractor:

## Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Two-stage firing
- Flanged water connections
- Glass-lined headers
- External header gaskets
- 75 psi (517 kPa) ASME rated pressure relief valve (MT2H)
- 125 psi (861 kPa) ASME rated pressure relief valve (MT2V)
- Flow switch
- Multiple operating gas valve/pressure regulators
- Temperature pressure gauge
- Manual "A" gas valve
- Intake air filter
- Multiple, removable burner trays
- Stainless steel burners
- Built-in draft fan for Category I or III vent systems
- Air pressure switch
- Burner site glass
- 24V control system
- 115/24VAC transformer
- Manual reset high limit
- External controller connections with selector switch
- Hot surface ignition
- On/Off toggle switch
- Pump time delay
- Less than 10 ppm NOx

## Boiler Data

### Model:

- Boiler MT2H
- Water Heater MT2V

### Number of Units:

### Fuel

- Natural
- Propane

### Heat Exchanger

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

### Water Trim

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

### Options

- CSD-1
- 200°F Max Controls (std. on MT2V)
- Low Water Cutoff
- Auto reset high limit
- Ignition failure alarm with bell and dry contacts, red trouble and green main gas lights
- ASME "HLW" Stamp (MT2V only)



## Sizing Data

Indoor Model	Input <sup>1,3</sup> BTU/h	Output <sup>1,3</sup> BTU/h	Gas Conn. Size inches <sup>2</sup>	Water Conn. Size inches <sup>2</sup>	Shipping Weight	
					lbs.	kg
500	500,000	425,000	1¼	2	425	193
750	750,000	638,000	1¼	2	505	229
1000	999,000	849,000	1½	2½	615	279
1250	1,250,000	1,062,500	2	2½	675	306
1500	1,500,000	1,275,000	2	2½	760	345
1750	1,750,000	1,487,500	2	2½	825	375
2000	1,999,000	1,699,000	2	2½	955	434

- NOTES:**
1. Input and output must be derated 4% per 1000 feet above sea level when installed above 2000 feet altitude.
  2. Dimensions are nominal.
  3. For other boiler ratings:  
Boiler Horsepower:  $HP = \frac{\text{Output}}{33,475}$       Radiation Surface:  $EDR \text{ sq. ft.} = \frac{\text{Output}}{150}$

## Accessories

- Side-wall vent terminal for indoor unit with horizontal venting
- Vent terminal for outdoor unit
- Air terminal for outdoor unit
- Side-wall combustion air terminal for indoor unit with horizontal ducted air

## Water Flow Data

**MT2H (Boiler)**  
TEMPERATURE RISE IN DEGREES

Size	20°F		11°C		25°F		14°C		30°F		17°C		35°F		19°C	
	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m	Flow gpm	H/L feet	Flow lpm	H/L m
500	43	1.7	161	0.5	34	1.1	129	0.3	28	0.9	107	0.3	24	0.7	92	0.2
750	64	3.3	242	1.0	51	2.3	193	0.7	43	1.7	161	0.5	36	1.2	138	0.4
1000	85	5.0	321	1.5	68	3.6	257	1.1	57	3.1	214	0.9	49	2.2	184	0.7
1250	106	8.1	402	2.5	85	6.1	322	1.9	71	4.7	268	1.4	61	3.4	230	1.0
1500	128	10.0	483	3.0	102	7.2	386	2.2	85	5.5	322	1.7	73	4.2	276	1.3
1750	N/R	N/R	N/R	N/R	119	10.5	451	3.2	99	8.4	375	2.6	85	5.8	322	1.8
2000	N/R	N/R	N/R	N/R	136	12.5	515	3.8	113	10.4	429	3.2	97	8.3	368	2.5

**MT2V (Water Heater)**

Size	HARD WATER					NORMAL WATER					SOFT WATER							
	Flow gpm	H/L feet	Temp rise °F	Flow lpm	H/L m	Temp rise °C	Flow gpm	H/L feet	Temp rise °F	Flow lpm	H/L m	Temp rise °C	Flow gpm	H/L feet	Temp rise °F	Flow lpm	H/L m	Temp rise °C
500	90	3.5	9	341	1.1	5	68	2.3	13	257	0.7	7	45	1.8	19	170	0.5	10
750	90	6.0	14	341	1.8	8	68	3.0	19	257	0.9	10	45	2.1	28	170	0.6	16
1000	90	6.1	19	341	1.9	10	68	3.6	25	257	1.1	14	45	2.3	38	170	0.7	21
1250	90	6.3	24	341	1.9	13	68	3.8	31	257	1.2	17	68	3.8	31	257	1.2	17
1500	90	6.5	28	341	2.0	16	68	3.9	38	257	1.2	21	68	3.9	38	257	1.2	21
1750	90	6.7	33	341	2.0	18	68	4.0	44	257	1.2	24	68	4.0	44	257	1.2	24
2000	112	10.0	30	424	3.0	17	112	10.0	30	424	3.0	17	112	10.0	30	424	3.0	17

**NOTE:** Headloss (H/L) shown is for the Mighty Therm2 heat exchanger only.

WATER TEMPERATURE RISE IN DEGREES

**Recovery Data**

Size	40°F gph	50°F gph	60°F gph	70°F gph	80°F gph	90°F gph	100°F gph	120°F gph	140°F gph
500	1276	1020	850	729	638	567	510	425	364
750	1915	1532	1277	1094	957	851	766	638	547
1000	2548	2038	1699	1456	1274	1132	1019	849	728
1250	3189	2551	2126	1822	1594	1417	1276	1063	911
1500	3827	3061	2551	2187	1913	1701	1531	1276	1093
1750	4464	3571	2976	2551	2232	1984	1786	1488	1276
2000	5099	4079	3399	2914	2550	2266	2040	1700	1457

Size	22°C L/h	28°C L/h	33°C L/h	39°C L/h	44°C L/h	50°C L/h	56°C L/h	67°C L/h	78°C L/h
500	4821	3857	3214	2755	2411	2143	1929	1607	1378
750	7238	5790	4825	4136	3619	3217	2895	2413	2068
1000	9632	7705	6421	5504	4816	4281	3853	3211	2752
1250	12054	9643	8036	6888	6027	5357	4821	4018	3444
1500	14464	11571	9643	8265	7232	6429	5786	4821	4133
1750	16875	13500	11250	9643	8438	7500	6750	5625	4821
2000	19274	15419	12850	11014	9637	8566	7710	6425	5507

NOTE: gph = gallons per hour, L/h = Liters per hour.

**Clearances**

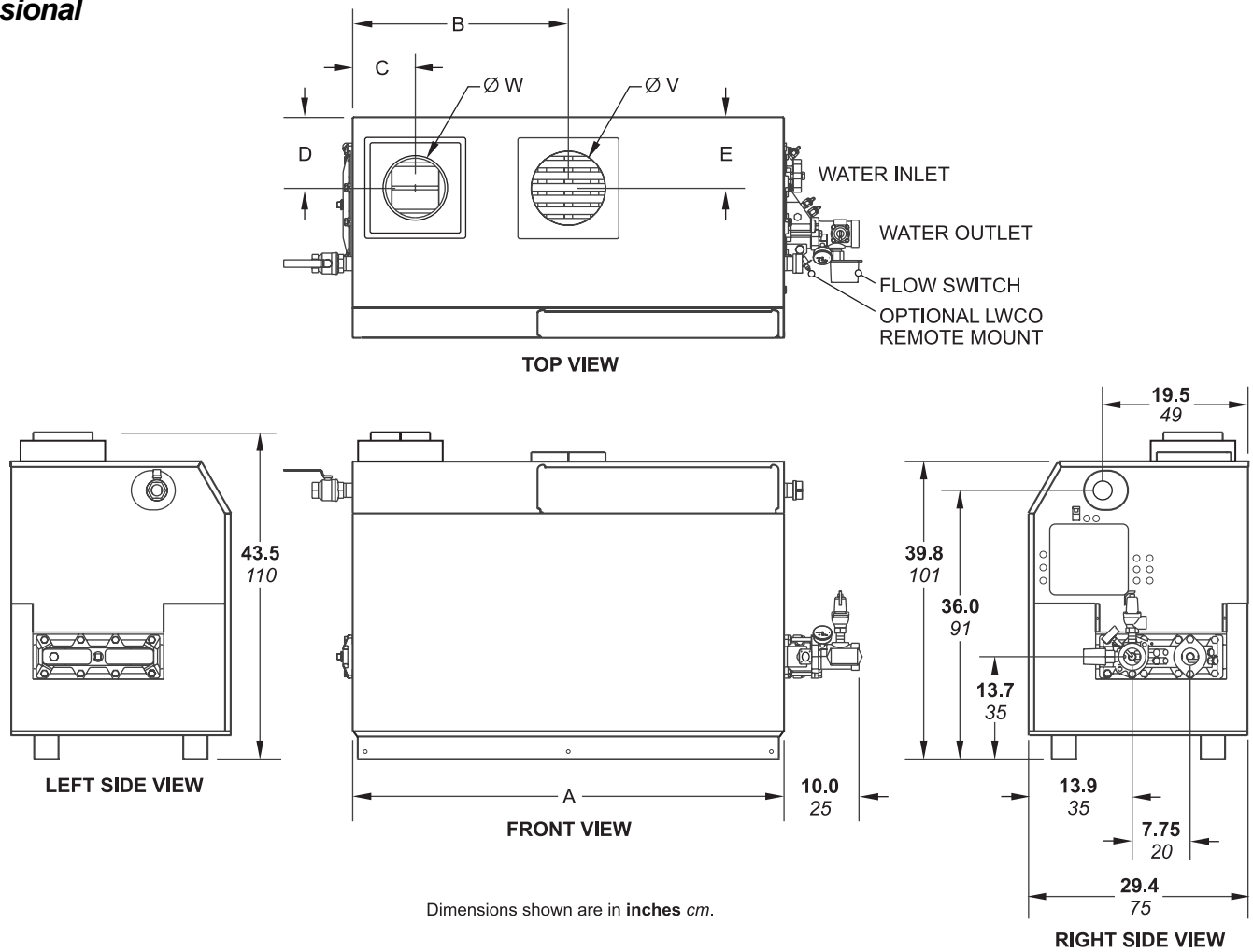
Appliance Surface	Required Clearance From Combustible Material		Suggested Service Access Clearances	
Left Side	1	2.5	24	61
Right Side	1	2.5	24	61
Top	1	2.5	12	30
Back	1	2.5	12	30
Front	1	2.5	36	91
Vent	Per venting system supplier's instructions			

Dimensions in inches cm

**Electrical Data**

MT2H & MT2V (non-pump mounted)	Boiler / Heater Circuit Size			Pump Circuit Requirements			Blower Circuit
	Volts	Phase	Amps	Pilot Duty	Phase	Power	
500-750	120	Single	15	24V	Single	Up to 25VA	Included in Boiler Circuit
1000-2000			20				

# Dimensional Data



Size	A		B		C		D		E		Air Conn. W	Vent Conn. V		
500	33 <sup>3</sup> / <sub>4</sub>	85	16 <sup>3</sup> / <sub>4</sub>	43	6 <sup>1</sup> / <sub>2</sub>	17	10	25	8	20	6	15	8	20
750	45 <sup>3</sup> / <sub>4</sub>	116	22 <sup>3</sup> / <sub>4</sub>	53	6 <sup>1</sup> / <sub>2</sub>	17	10	25	9 <sup>1</sup> / <sub>2</sub>	24	6	15	10	25
1000	57 <sup>3</sup> / <sub>4</sub>	147	28 <sup>3</sup> / <sub>4</sub>	73	6 <sup>1</sup> / <sub>2</sub>	17	10	25	9 <sup>1</sup> / <sub>2</sub>	24	8	20	10	25
1250	68 <sup>3</sup> / <sub>4</sub>	173	34	87	10 <sup>1</sup> / <sub>4</sub>	26	10	25	9	23	8	20	12	30
1500	78 <sup>3</sup> / <sub>4</sub>	200	39 <sup>1</sup> / <sub>2</sub>	100	10 <sup>1</sup> / <sub>4</sub>	26	10	25	9	23	8	20	12	30
1750	89 <sup>3</sup> / <sub>4</sub>	227	44 <sup>3</sup> / <sub>4</sub>	113	10 <sup>1</sup> / <sub>4</sub>	26	10	25	9	23	8	20	14	36
2000	99 <sup>3</sup> / <sub>4</sub>	253	49 <sup>3</sup> / <sub>4</sub>	127	10 <sup>1</sup> / <sub>4</sub>	26	10	25	9	23	12	30	14	36

Dimensions shown in inches cm.

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