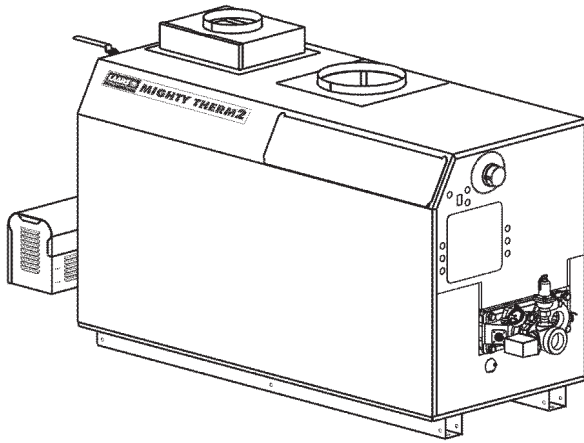


MIGHTY THERM2

Pump-Mounted 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
- Temperature pressure gauge
- Pump, mounted and wired
- Multiple operating gas valve/pressure regulators
- 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 (std. on MT2H, N/A on MT2V)
 Cupro-Nickel (std. on MT2V)
 Copper, Reversed (N/A on MT2V)
 Cupro-Nickel, Reversed

Water Trim

- Glass-Lined Cast Iron
 Bronze Trim (standard on MT2)

Pump

- Normal Water, Taco
 Normal Water, Xylem
 Hard Water, Taco (MT2V only)
 Hard Water, Xylem (MT2V only)
 Soft Water, Taco (MT2V only)
 Soft Water, Xylem (MT2V only)

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)
 Reversed heat exchanger



Sizing Data

Size	Input ^{1,3} BTU/h	Output ^{1,3} BTU/h	Gas Conn. Size inches ²	Water Conn. Size inches ²	Shipping Weight	
					lbs.	kg
<input type="checkbox"/> 500	500,000	425,000	1¼	2	700	318
<input type="checkbox"/> 750	750,000	638,000	1¼	2	795	361
<input type="checkbox"/> 1000	999,000	849,000	1½	2½	940	426
<input type="checkbox"/> 1250	1,250,000	1,064,000	2	2½	1035	469
<input type="checkbox"/> 1500	1,500,000	1,277,000	2	2½	1170	531
<input type="checkbox"/> 1750	1,750,000	1,489,000	2	2½	1265	574
<input type="checkbox"/> MT2H 2000	1,999,000	1,701,000	2	2½	1395	633
<input type="checkbox"/> MT2V 2000	2,000,000	1,701,000	2	2½	1395	633

- NOTES:**
- Input and output must be derated 4% per 1000 feet above sea level when installed above 2000 feet altitude.
 - Dimensions are nominal.
 - For other boiler ratings:
Boiler Horsepower: $HP = \frac{\text{Output}}{33,475}$ Radiation Surface: $EDR \text{ sq. ft.} = \frac{\text{Output}}{150}$
 - Shipping weight is approximate, based on previous units shipped and can be effected by several variables including the various weights for optional pumps and even the green or dry wood used in the crate.

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
- Propane conversion kit
- Natural gas conversion kit

Water Flow Data

Size	MT2H (Boiler)							
	Temperature Rise in Degrees							
	20°F	11°C	25°F	14°C	30°F	17°C	35°F	19°C
	Flow gpm	Flow lpm	Flow gpm	Flow lpm	Flow gpm	Flow lpm	Flow gpm	Flow lpm
500	43	161	34	129	28	107	24	92
750	64	242	51	193	43	161	36	138
1000	85	321	68	257	57	214	49	184
1250	106	402	85	322	71	268	61	230
1500	128	483	102	386	85	322	73	276
1750	N/R	N/R	119	451	99	375	85	322
2000	N/R	N/R	136	515	113	429	97	368

MT2V (Water Heater)

Size	Hard Water		Normal Water		Soft Water	
	Flow gpm	Flow lps	Flow gpm	Flow lps	Flow gpm	Flow lps
500	90	341	68	257	45	170
750	90	341	68	257	45	170
1000	90	341	68	257	45	170
1250	90	341	68	257	68	257
1500	90	341	68	257	68	257
1750	90	341	68	257	68	257
2000	112	424	112	424	112	424

Recovery Data

Size	WATER TEMPERATURE RISE IN DEGREES								
	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.

Electrical Data

MT2H & MT2V (pump mounted) Size	Boiler / Heater Circuit Size			Pump Circuit Size			Blower Circuit
	Volts	Phase	Amps	Volts	Phase	Amps	
500-750	120	Single	15	120	Single	15	Included in Boiler Circuit
1000-1750			20			15	
2000			20			20	

Pump Data

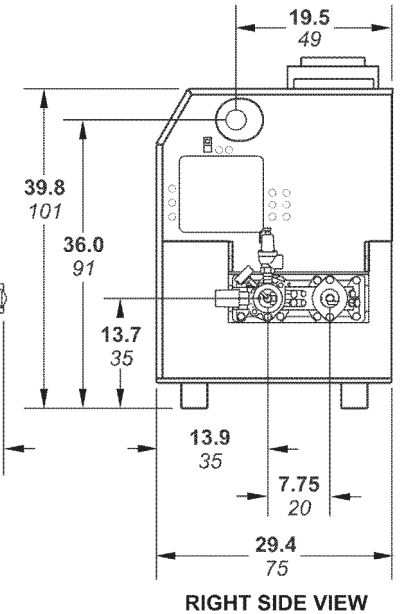
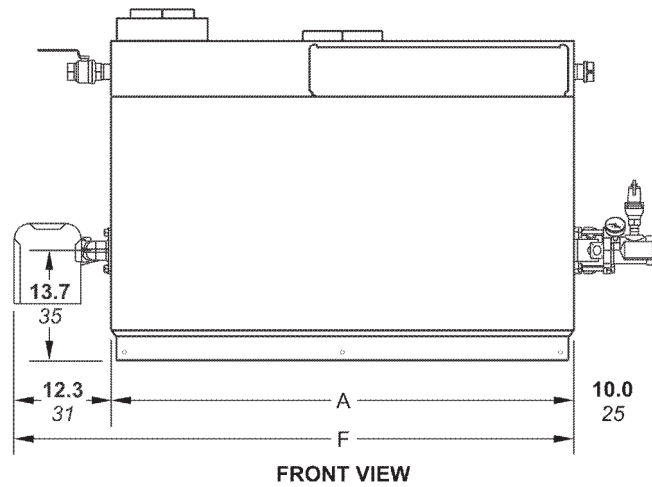
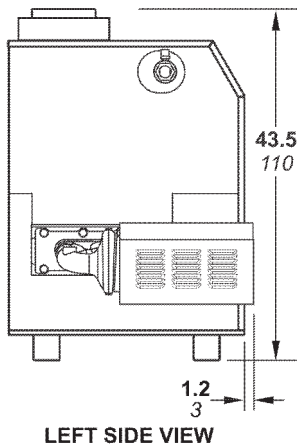
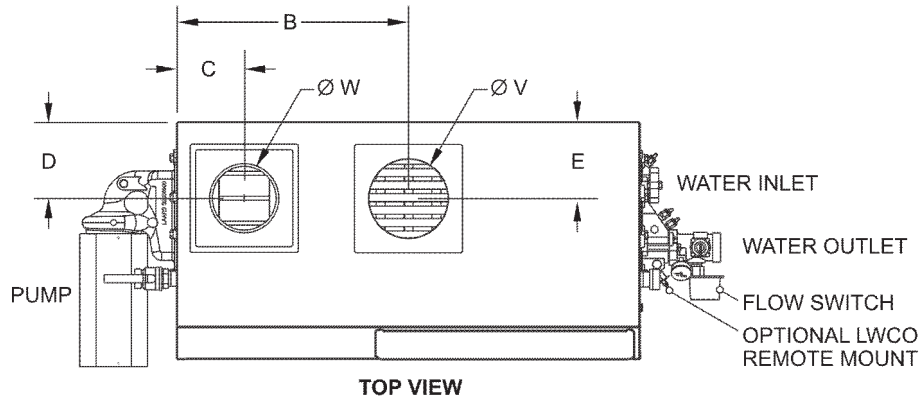
Size	MT2V Water Heaters						MT2H Boilers		
	Water Category						Size	HP	Amps
	SOFT		NORMAL		HARD				
	HP	Amps	HP	Amps	HP	Amps			
500	1/3	2.8	1/3	2.8	3/4	7.2	500	1/3	2.8
750	1/3	2.8	1/3	2.8	3/4	7.2	750	1/3	2.8
1000	1/3	2.8	1/2	5.2	3/4	7.2	1000	1/2	5.2
1250	1/3	2.8	1/2	5.2	3/4	7.2	1250	1/2	5.2
1500	1/3	2.8	3/4	7.2	3/4	7.2	1500	3/4	7.2
1750	3/4	7.2	3/4	7.2	3/4	7.2	1750	3/4	7.2
2000	1	9.8	1	9.8	1	9.8	2000	1	9.8

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

Dimensional Data



Dimensions shown are in inches cm.

Size	A	B	C	D	E	F	Air Conn. W	Vent Conn. V
500	33 ³ / ₄ 86	16 ³ / ₄ 43	6 ¹ / ₂ 17	10 25	8 20	46 ¹ / ₄ 117	6 15	8 20
750	45 ³ / ₄ 116	22 ³ / ₄ 58	6 ¹ / ₂ 17	10 25	9 ¹ / ₂ 24	58 ³ / ₄ 148	8 20	10 25
1000	57 ³ / ₄ 147	28 ³ / ₄ 73	6 ¹ / ₂ 17	10 25	9 ¹ / ₂ 24	70 ¹ / ₄ 178	8 20	10 25
1250	68 ¹ / ₄ 173	34 ¹ / ₄ 87	10 ¹ / ₄ 26	10 25	9 23	80 ³ / ₄ 205	12 30	12 30
1500	78 ³ / ₄ 200	39 ¹ / ₂ 100	10 ¹ / ₄ 26	10 25	9 23	91 ¹ / ₄ 232	12 30	12 30
1750	89 ¹ / ₄ 227	44 ³ / ₄ 113	10 ¹ / ₄ 26	10 25	9 23	101 ³ / ₄ 258	12 30	14 36
2000	99 ³ / ₄ 253	49 ³ / ₄ 127	10 ¹ / ₄ 26	10 25	9 23	112 ¹ / ₄ 285	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.