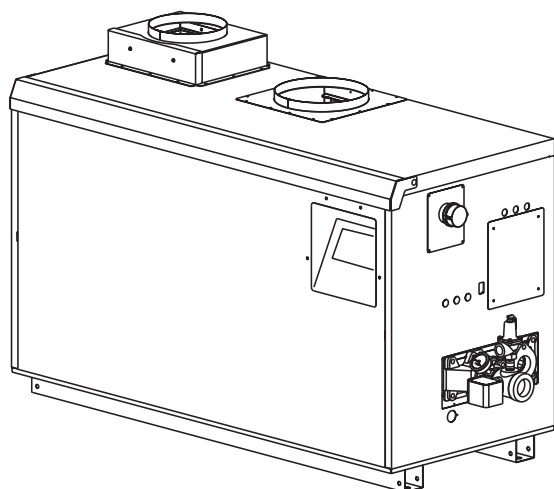




PNCV Volume Water Heater

Indoor/Outdoor Sizes 500-2000



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Submittal Data

Project Name:

Location:

Contractor:

Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Meets NSF/ANSI-372 Low Lead Content Certification
- Electronic staging & ignition control with LCD touchscreen
- Cascades up to 8 heaters with redundancy options
- BACnet MSTP and Modbus (optional BACnet IP, Metasys, or LonWorks)
- Accepts external 0-10VDC or 4-20mA for remote control of temperature or stages
- Displays messages in clear text form
- Complete diagnostics for analog and digital inputs
- Password protected parameters
- Quick start configuration
- Hot surface ignition
- 24V control system
- On/off toggle switch
- 115/24VAC transformer
- DHW temperature sensor
- Manual reset high limit
- Automatic reset high limit
- Dry run and alarm contacts
- Anti-frost mode
- Anti-short-cycle mode
- Flanged water connections
- Glass-lined headers
- External header gaskets
- 125 psi (861 kPa) ASME rated pressure relief valve
- Water flow switch
- Temperature/pressure gauge
- Multiple operating gas valve/pressure regulators
- Manual "A" gas valve
- Multiple removable burner trays
- Stainless steel burners
- Built-in draft fan for Category I or III vent systems
- Intake air filter
- Air pressure switch
- Burner site glass

Boiler Data

Number of Units:

Fuel

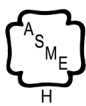
- ☐ Natural
☐ Propane

Heat Exchanger

- ☐ Cupro-Nickel (Std)
☐ Cupro-Nickel, Reversed

Options

- ☐ CSD-1 (LWCO Not Included)
☐ Low Water Cutoff
☐ ASME "HLW" Stamp
☐ Additional manual reset high limit
☐ Additional automatic reset high limit
☐ Alternate display orientation for top unit in stacked system.



Sizing Data

	Size	Input ¹ BTU/hr.	Input ¹ kW	Output ¹ BTU/hr.	Output ¹ kW	Gas Conn. Size inches ²	Water Conn Size inches ²	Shipping Weight lbs kg	
	500	501,000	147	425,000	125	1¼	2	640	290
	750	750,000	220	638,000	187	1¼	2	735	333
	1000	1,000,000	293	850,000	249	1½	2½	830	376
	1250	1,250,000	366	1,065,000	312	2	2½	925	420
	1500	1,500,000	440	1,278,000	374	2	2½	1020	463
	1750	1,750,000	513	1,491,000	437	2	2½	1115	506
	2000	2,000,000	586	1,704,000	499	2	2½	1210	549

	Size	AHRI Certified Thermal Efficiency%
	500	85
	750	85
	1000	85
	1250	85
	1500	85
	1750	85
	2000	85

- 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. Shipping weight is approximate based on previous units shipped and can be effected by several variables including the green or dry wood used in the crate.

Water Flow Requirements

Temp Size	HARD WATER						NORMAL WATER						SOFT WATER					
	Temp			Temp			Temp			Temp			Temp			Temp		
	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	rise °C	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	rise °C	Flow gpm	H/L feet	rise °F	Flow lpm	H/L m	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 heat exchanger only.

Recovery Data

WATER TEMPERATURE RISE IN DEGREES

Size	40°F 22°C	50°F 28°C	60°F 33°C	70°F 39°C	80°F 44°C	90°F 50°C	100°F 56°C	120°F 67°C	140°F 78°C
	GPH L/h	GPH L/h	GPH L/h	GPH L/h	GPH L/h	GPH L/h	GPH L/h	GPH L/h	GPH L/h
500	1276 4821	1020 3857	850 3214	729 2755	638 2411	567 2143	510 1929	425 1607	364 1378
750	1913 7232	1531 5786	1276 4821	1093 4133	957 3616	850 3214	765 2893	638 2411	547 2066
1000	2548 9633	2039 7707	1699 6422	1456 5505	1274 4817	1133 4281	1019 3853	849 3211	728 2752
1250	3189 12054	2551 9643	2126 8036	1822 6888	1594 6027	1417 5357	1276 4821	1063 4018	911 3444
1500	3827 14464	3061 11571	2551 9643	2187 8265	1913 7232	1701 6429	1531 5786	1276 4821	1093 4133
1750	4464 16875	3571 13500	2976 11250	2551 9643	2232 8438	1984 7500	1786 6750	1488 5625	1276 4821
2000	5099 19276	4080 15421	3400 12851	2914 11015	2550 9638	2266 8567	2040 7710	1700 6425	1457 5507

NOTE: GPH = gallons per hour, L/h = Liters per hour

Clearances

Appliance Surface	Required Clearance From Combustible Material	Suggested Service Access Clearances	Dimensions in inches cm
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		

*When vent and/or air is connected to the back, 36" (91cm) is suggested.

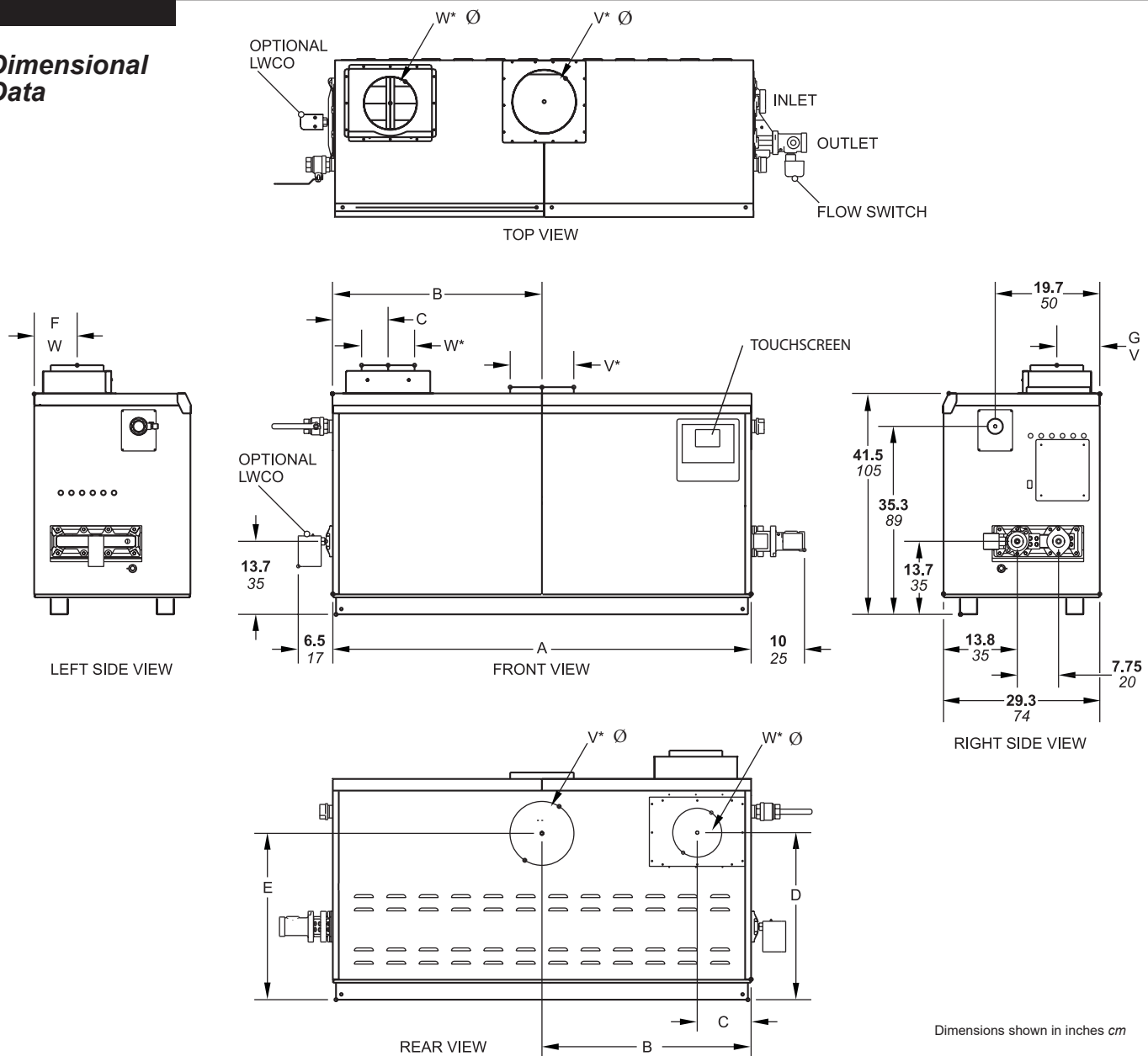
Electrical Data

Size	Heater Circuit			Pump Contacts		
	Voltage	Phase	Overcurrent Protection Rating	Voltage	Phase	Overcurrent Protection Rating
500	120 VAC	Single	15 Amps	120 VAC	Single	15 Amps
750	120 VAC	Single	15 Amps	120 VAC	Single	15 Amps
1000	120 VAC	Single	20 Amps	120 VAC	Single	15 Amps
1250	120 VAC	Single	25 Amps	120 VAC	Single	15 Amps
1500	120 VAC	Single	25 Amps	120 VAC	Single	15 Amps
1750	120 VAC	Single	25 Amps	120 VAC	Single	15 Amps
2000	120 VAC	Single	25 Amps	120 VAC	Single	20 Amps

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

Dimensional Data



Size	A		B		C		D		E		F		G		H		Air Conn. W*		Vent Conn. V*		Horiz. Vent Pipe	
500	33½	85	15¾	40	5¾	15	29¾	76	33¾	86	7¾	20	8¾	22	46	117	6	15	8	20	6	15
750	45½	116	21¾	55	5¾	15	29¾	76	33¾	86	7¾	20	8¾	22	58	147	8	20	10	25	8	20
1000	57½	146	28¾	73	5¾	15	29¾	76	33¾	86	7¾	20	7	18	70	178	8	20	10	25	8	20
1250	68	172	34	86	10⅞	26	30¾	78	31⅞	79	8¾	22	8¾	22	80	203	12	30	12	30	10	25
1500	78½	199	39¾	101	10⅞	26	30¾	78	31⅞	79	8¾	22	8¾	22	91	231	12	30	12	30	10	25
1750	89	226	44½	113	10⅞	26	30¾	78	31⅞	79	8¾	22	8¾	22	101	256	12	30	14	36	12	30
2000	99½	253	49¾	126	10⅞	26	30¾	78	31⅞	79	8¾	22	8¾	22	112	284	12	30	14	36	12	30

*Air and vent connections may be on top or back, and are field convertible.

Dimensions in inches cm

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