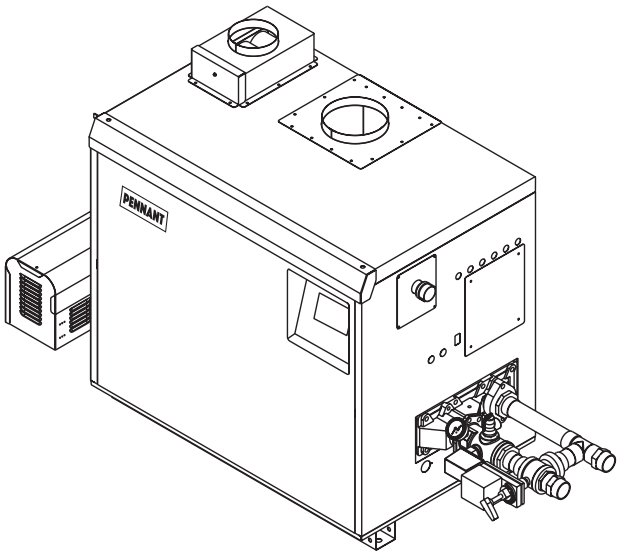
PENNANT®

Pump-Mounted Pool Heater

PNCP | Pump Mounted Pool Heater

Indoor/Outdoor Sizes 500-2000



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

LAARS Heating Systems Company

Submittal Data

Project Name:

Location:

Contractor:

Standard Equipment

- ASME 160 psi working pressure heat exchanger
- ASME "H" stamp
- Electronic firing & ignition control with LCD touchscreen
- Adjustable heater and pool system pump time delays
- 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
- Sensors on pool supply, pool return, heater inlet, and heater outlet
- Manual reset heater high limit
- Automatic reset heater high limit
- Automatic reset pool loop high limit
- Dry run and alarm contacts
- Anti-frost mode
- Anti-short-cycle mode
- Pump, mounted and wired
- Anti-Condensing mixing system
- Flanged water connections
- Glass-lined headers
- External header gaskets
- 75 psi (517kPa) 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

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

Options

- ☐ CSD-1 (LWCO not incl.)
- ☐ Low water cutoff
- ☐ Alternate display orientation for top unit in stacked system

ASME H

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Sizing Data

Size	Input[1] BTU/H	Output[1] BTU/H	Gas Conn. Size inches[2]	Heater Water Conn. Size inches[2]	Mixing System Water Conn. Size inches[2]	Shipping Weight lbs	Shipping Weight *kg*
500	**500,000**	**425,000**	1¼	2	2	**775**	*352*
750	**750,000**	**638,000**	1¼	2	2	**870**	*395*
1000	**999,000**	**849,000**	1½	2½	2	**1035**	*469*
1250	**1,250,000**	**1,062,500**	2	2½	2	**1130**	*513*
1500	**1,500,000**	**1,275,000**	2	2½	2	**1285**	*583*
1750	**1,750,000**	**1,487,500**	2	2½	2	**1380**	*626*
2000	**1,999,000**	**1,699,000**	2	2½	2	**1510**	*685*

Size	*Input[1] kW*	*Output[1] kW*
500	*147*	*125*
750	*220*	*187*
1000	*293*	*249*
1250	*366*	*312*
1500	*440*	*374*
1750	*513*	*436*
2000	*586*	*498*

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

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			

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

Electrical Data

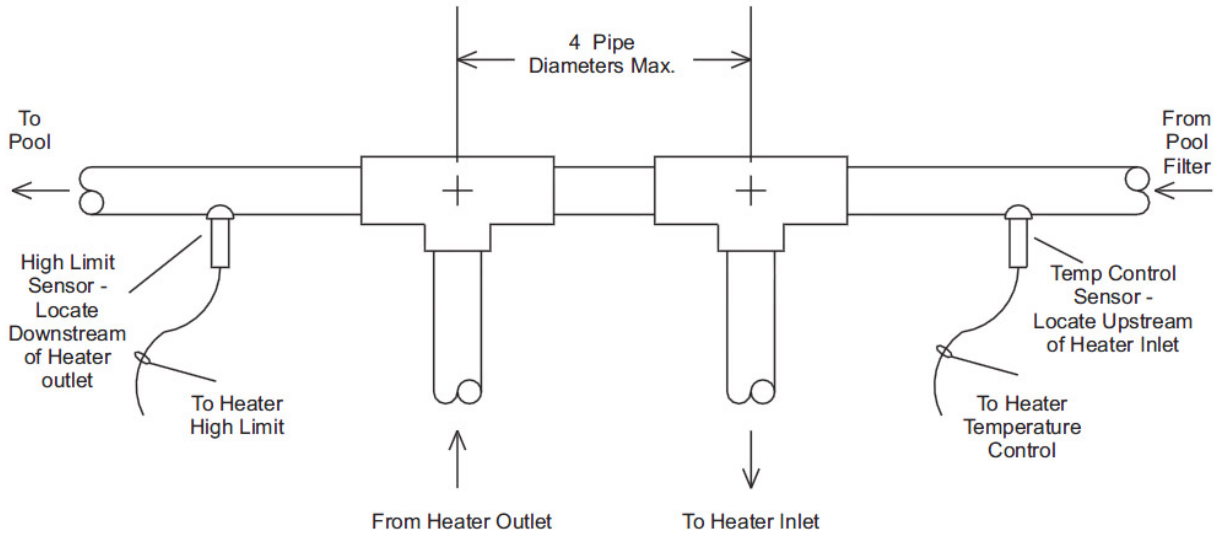
Model	Boiler / Heater			Pump			Blower(s)
	Volts	Phase	Amps	Volts	Phase	Amps	
PNCP 500-1000	115	Single	Less than 12	Included in Pennant connection			Included in Pennant connection
PNCP 1250-2000	115	Single	Less than 12	115	Single	Less than 12	Included in Pennant connection

Pump Data

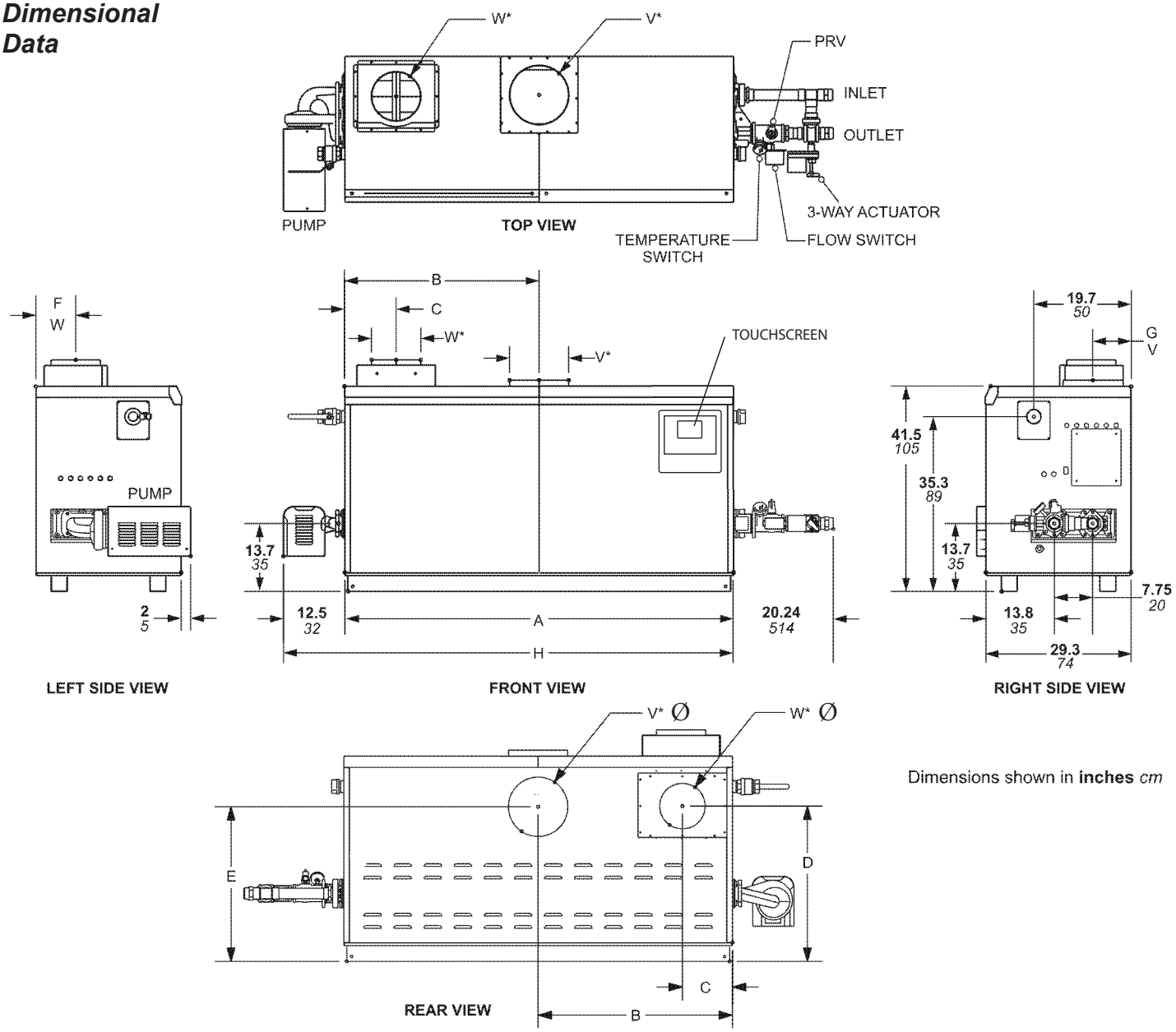
Sizes	**Power (HP)**	*Current (Amps)*
500	**1/3**	*2.8*
750	**1/3**	*2.8*
1000	**1/2**	*5.2*
1250	**1/2**	*5.2*
1500	**3/4**	*7.2*
1750	**1**	*9.8*
2000	**1**	*9.8*

Piping and Sensor Location

The Pennant Pool Heater is shipped with a field-installed mixing system, and must be piped in primary-secondary style, as shown. A remote pool temperature sensor and remote pool temperature high limit are wired to the Pennant, to be mounted in the pool water loop, as shown.



Dimensional Data



Dimensions shown in **inches** *cm*

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*	**10⅛**	*26*	**30¾**	*78*	**31⅛**	*79*	**8¾**	*22*	**8¾**	*22*	**80**	*203*	**12**	*30*	**12**	*30*	**10**	*25*
1500	**78½**	*199*	**39¾**	*101*	**10⅛**	*26*	**30¾**	*78*	**31⅛**	*79*	**8¾**	*22*	**8¾**	*22*	**91**	*231*	**12**	*30*	**12**	*30*	**10**	*25*
1750	**89**	*226*	**44½**	*113*	**10⅛**	*26*	**30¾**	*78*	**31⅛**	*79*	**8¾**	*22*	**8¾**	*22*	**101**	*256*	**12**	*30*	**14**	*36*	**12**	*30*
2000	**99½**	*253*	**49¾**	*126*	**10⅛**	*26*	**30¾**	*78*	**31⅛**	*79*	**8¾**	*22*	**8¾**	*22*	**112**	*284*	**12**	*30*	**14**	*36*	**12**	*30*

*Air and vent connections may be on top or back of the Pennant, and are field convertible. Dimensions in **inches** *cm*

LAARS Heating Systems Company
A subsidiary of BRADFORD WHITE® Corporation

Customer Service and Product Support: **800.900.9276 • Fax 800.559.1583**
Headquarters: **20 Industrial Way, Rochester, NH, USA 03867 • 603.335.6300 • Fax 603.335.3355**
9 Brigden Gate, Halton Hills, Ontario, Canada L7G 0A3 (905) 203-0600 Fax: (905) 636-0666
www.Laars.com