From: KennerknechtN@wcsdpa.org
To: chris byham <asalawchris@atlanticbb.net>
Date: Tue 10 Dec 2013 04:09:26 PM -0500
Cc:
Subject: FW: Laars MagnaTherm 2.0 Beta Program

Beta Field Installation List.pdf ((137 kb)) Boiler Submittal 1280-NH.pdf ((842 kb))

Chris this is what they sent me RE: boiler

---------- Forwarded message ----------
From: Toby Burns <tburns@fplco.com>
Sent: Fri Dec 6 15:29:41 EST 2013
To: kennerknechtN@wcsdpa.org
Subject: FW: Laars MagnaTherm 2.0 Beta Program

From: Toby Burns [mailto:tburns@fplco.com]
Sent: Wednesday, November 27, 2013 2:07 PM
To: 'mailto:kennerknechtN@wcsdpa.org'
Subject: Laars MagnaTherm 2.0 Beta Program

Subject: Laars MagnaTherm 2.0 Beta Program

The Laars Beta Site Test program works as Follows:

1. Laars provides a MGH2000 at no charge in return for test data. Laars does not cover the labor to install the unit.

2. If any significant changes are made after Beta test, Laars will provide a production unit at no charge to replace the Beta unit. Laars would cover labor to make the change out.

3. Building owner must provide access to the Beta Test boiler at Laars' request.

Attached are the Site Survey sheet and submittal sheet.

Toby Burns

Frank P. Langley Co.

Cell: 716-225-2141

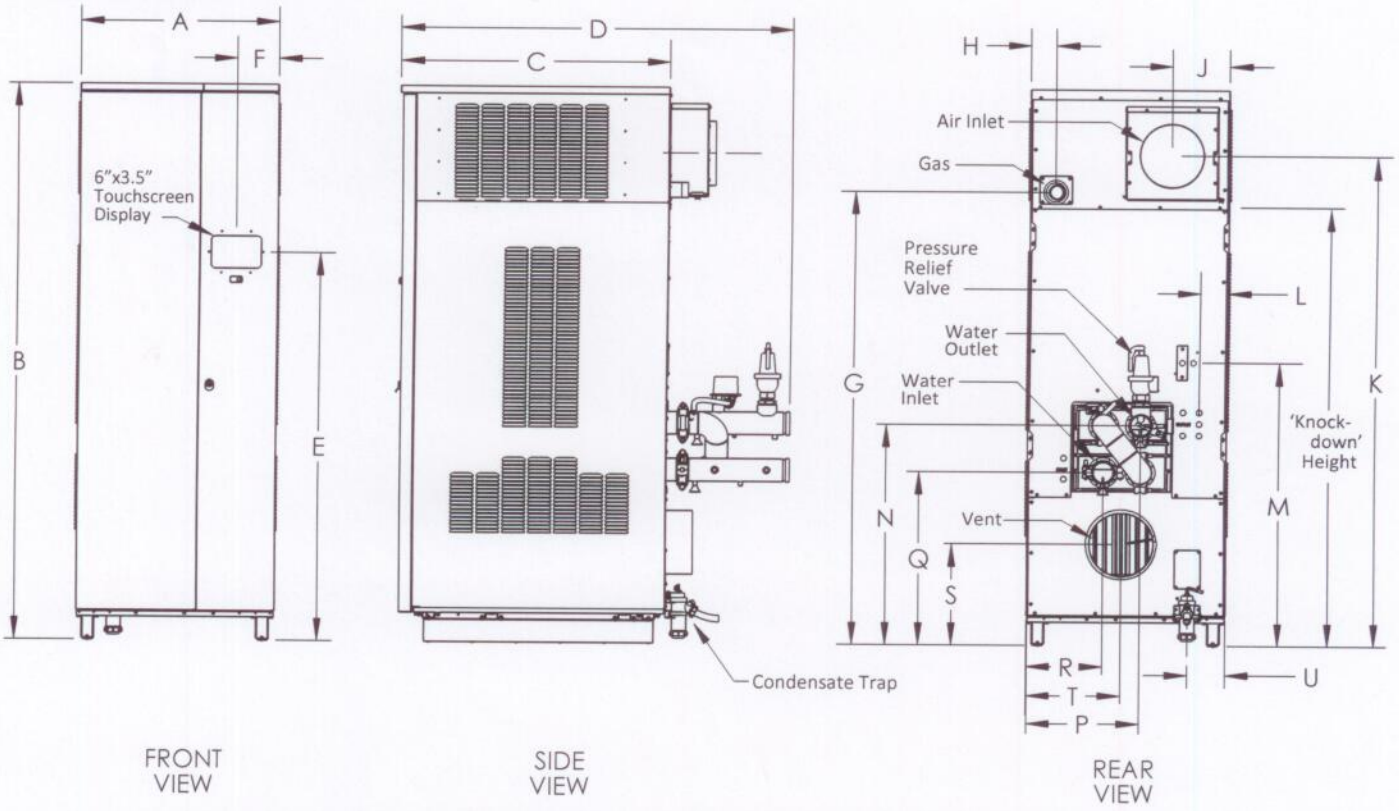
Dimensional Data

Model Size	A	B	C	D	E	F	G	H
	Inches (*cm*)							
2000	29.3 (*75*)	77 (*196*)	38 (*96*)	57.5 (*147*)	49.8 (*126*)	4.8 (*12*)	60.8 (*154*)	2.6 (*7*)
3000	30.8 (*78*)	87 (*221*)	41.5 (*105*)	60.5 (*154*)	60.8 (*154*)	6.5 (*16*)	71 (*180*)	28.8 (*73*)
4000	34.5 (*88*)	97 (*246*)	52 (*133*)	70 (*178*)	60.8 (*154*)	6.4 (*16*)	80.8 (*205*)	4 (*10*)

Model Size	J	K	L	M	N	P	Q	R
	Inches (*cm*)							
2000	8.4 (*21*)	67.4 (*171*)	4 (*10*)	39.2 (*100*)	30.4 (*77*)	16 (*41*)	23 (*58*)	10.2 (*26*)
3000	8.9 (*23*)	76.8 (*195*)	4.3 (*11*)	44.4 (*113*)	34.5 (*88*)	17.7 (*45*)	27.2 (*69*)	11.8 (*30*)
4000	28.8 (*75*)	85.6 (*217*)	6.5 (*16*)	51.3 (*130*)	40 (*102*)	21.6 (*55*)	30.7 (*78*)	13 (*33*)

Model Size	S	T	U	Vent Ø	Air Inlet Ø	Knock-down Height
	Inches (*cm*)					
2000	14 (*36*)	13 (*33*)	6.3 (*16*)	8 (*20*)	7 (*18*)	58 (*148*)
3000	18.3 (*46*)	14.8 (*38*)	6 (*15*)	10 (*25*)	10 (*25*)	69 (*176*)
4000	16 (*41*)	17.4 (*44*)	6.7 (*17*)	12 (*30*)	12 (*30*)	78 (*199*)

MAGNATHERM



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

LAARS Heating Systems Company
A subsidiary of BRADFORD WHITE Corporation

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1869 Sismet Road, Mississauga, Ontario, Canada L4W 1W8 • 905.238.0100 • Fax 905.366.0130
www.Laars.com

Electrical Data

Voltage	Current (FLA)		
	2000	3000	4000
120V Single Phase	22.6	N/A	N/A
220V Single Phase	11.3	N/A	N/A
208V Three Phase	12.7	19.4	19.4
480V Three Phase	6.2	8.7	8.7
600V Three Phase	4.5	5.9	5.9

Vent System

Model	Vent Diameter		Maximum Vent Length		Maximum Air Length	
	Inches	cm	Ft*	m	Ft*	m
2000	8	20	100	30.5	100	30.5
3000	10	25	100	30.5	100	30.5
4000	12	30	100	30.5	100	30.5

Installations in the U.S. require exhaust vent pipe that is CPVC complying with ANSI/ASTM D1785 F441, polypropylene pipe that complies with ULC S636, or stainless steel complying with UL 1738. Installations in Canada require exhaust vent pipe that is certified to ULC S636.

Intake (air) pipe may be ABS, PVC, CPVC or galvanized material.

Closet and alcove installations do not allow the use of PVC under any circumstances

***Equivalent Feet:** To calculate max equivalent length, measure the linear feet of the pipe, and add 5 feet *(1.5m)* for each elbow used.

Water Flow Requirements

Temperature Rise in °F

Size	30°F		35°F		40°F	
	Flow GPM	Head Loss* Feet	Flow GPM	Head Loss* Feet	Flow GPM	Head Loss* Feet
2000	128	23.5	109	17.1	95	13.6
3000	190	34.2	164	25.8	142	18.9
4000	255	38.2	218	28.5	190	22.5

Temperature Rise in °C

Size	17°C		19°C		22°C	
	Flow LPM	Head Loss* m	Flow LPM	Head Loss* m	Flow LPM	Head Loss* m
2000	485	7.2	413	5.2	360	4.2
3000	719	10.4	621	7.9	538	5.8
4000	965	11.6	825	8.7	719	6.9

* Headloss is for boiler only

Accessories for Field Mounting

- ☐ Low water cutoff
- ☐ High & low gas pressure switches (2000 only)
- ☐ Additional manual reset high limit
- ☐ Additional auto reset high limit
- ☐ Gateway for BACNet or Metasys
- ☐ Gateway for Lonwork
- ☐ Horizontal vent terminal for CPVC
- ☐ Horizontal air terminal for CPVC
- ☐ Horizontal vent terminal for stainless steel or polypropylene
- ☐ Horizontal air terminal for stainless steel or polypropylene
- ☐ Vertical vent terminal for CPVC
- ☐ Vertical air terminal for CPVC
- ☐ Screen kit for stainless steel or polypropylene vertical air or vent pipe
- ☐ Vent terminal for boiler placed outdoors
- ☐ Air terminal for boiler placed outdoors
- ☐ Vent conversion adapter, stainless to CPVC
- ☐ Condensate neutralizer

Sizing Data

Size	Input Rate		Output Rate		Boiler Thermal Efficiency
	MBH	KW	MBH	KW	%
2000	2000	586	1896	556	95.0
3000	3000	879	2825	828	95.0
4000	4000	1172	3680	1079	95.0

Size	Product Weight		Operating Weight		Shipping Weight		Water Content	Vent Diameter	Vent Length
	Lbs	Kg	Lbs	Kg	Lbs	Kg	Gallons	in (cm)	ft (m)
2000	1390	630	1562	709	1590	721	22	8 (20)	100 (30.5)
3000	1785	810	2039	925	1985	900	31	10 (25)	100 (30.5)
4000	2278	1033	2742	1244	2478	1124	56	12 (30)	100 (30.5)

Clearances

Clearance to Combustibles

Model Size	Front		Back		Left		Right		Top	
	Inches	cm	Inches	cm	Inches	cm	Inches	cm	Inches	cm
2000	0	0	11	28	4	10	4	10	1	2.5
3000	0	0	11	28	4	10	4	10	1	2.5
4000	0	0	11	28	4	10	4	10	1	2.5

Service Clearances

Model Size	Front		Back		Left		Right		Top	
	Inches	cm	Inches	cm	Inches	cm	Inches	cm	Inches	cm
2000	24	61	24	61	8	20	8	20	12	30
3000	24	61	24	61	8	20	8	20	15	38
4000	24	61	24	61	8	20	8	20	24	61

MAGNATHERM®

Hydronic Boiler

MGH	Hydronic Boiler

Indoor /Outdoor Size 2000, 3000, & 4000

Submittal Data LAARS Heating Systems Company

Tuesday 12/17/13 Sealed

Date:

Project #:

Engineer:

Project Name:

Prepared By:

Location:

Bid Date:

Contractor:

Standard Features

- High condensing efficiency
- Modulation down to 20% of full fire (5:1 turndown)
- Pre-mix stainless steel burner
- Low NOx system exceeds the most stringent regulations for air quality – 10ppm NOx
- 4"-13" w.c. gas pressure
- For placement indoors and outdoors (in non-freezing environments)
- Sealed combustion chamber
- Horizontal or vertical direct vent
- Vent and air pipe lengths of up to 100 equivalent feet (each)
- Air filter
- Stainless steel heat exchanger with welded construction (no gaskets)
- ASME "H" stamp
- 160 psi maximum working pressure
- 75 psi (517 kPa) ASME rated pressure relief valve
- Victaulic fittings on units over 2,000 MBH
- Built-in condensate trap
- Electronic PID modulating control with large touchscreen and color display
- Vari-Prime boiler pump control with fixed Delta T control for variable flow through boiler
- Controller cascades with up to eight other MagnaTherm boilers to lead/lag the boilers together
- Accepts external modulation control (4-20mA or 0-10VDC)
- Multiple pump control for boiler pump, system pump, and indirect domestic water pump, each with delay
- Indirect water heater priority
- Sensor for indirect domestic water tank
- Outdoor reset
- Outdoor air temperature sensor
- Manual reset high limit
- Auto reset high limit (3000 and 4000 only)
- High & Low gas pressure switches (3000 and 4000 only)
- Alarm output
- Vent temperature cutoff
- Water flow switch
- Temperature & pressure gauge
- Burner site glass
- 10-Year limited warranty

Boiler Data

Number of Units:

Fuel

- [✓] Natural
- [ ] Propane

Factory Mounted Options

- [ ] CSD-1 (covers FM & GAP)
- [ ] Low water cutoff
- [ ] Additional auto reset high limit (2000 only)
- [ ] High & Low gas pressure switches (2000 only)
- [ ] Additional manual reset high limit
- [ ] Bell for ignition failure
- [ ] 30 psi pressure relief valve
- [ ] 50 psi pressure relief valve
- [ ] 60 psi pressure relief valve
- [ ] 75 psi pressure relief valve
- [ ] 125 psi pressure relief valve (std)
- [ ] 150 psi pressure relief valve