

LAARS[®] **NEOTHERM[®]**

Commercial Modulating,
Condensing Boilers



LAARS[®] 
Heating Systems Company
A subsidiary of **BRADFORD WHITE** Corporation

LAARS® NEOTHERM®

Hydronic Boiler

NeoTherm is a direct vent, sealed combustion, condensing boiler with 95+% AFUE that modulates with a 5 to 1 turndown. The boiler features an ASME stainless steel heat exchanger, and low NOx emissions (10 ppm NOx), for a package that's easy to use, and easy on the environment.

NeoTherm is built standard with the new LAARS Integrated Control SystemSM that puts the ignition control, temperature control and high limit in one user-friendly device that does it all. The PID control system has outdoor reset and indirect water heater priority, frost protection, and loads of other features. It seamlessly integrates with building automation systems and can easily become part of multiple boiler sequencing, including a cascading feature that rotates load across up to eight boilers to optimize boiler life without the need for additional system controls.

Available for indoor use with natural or propane gas, inputs of 285,000 through 850,000 BTU/h and a selection of factory-mounted options make the NeoTherm well suited for a broad variety of both large residential and small commercial applications.



NeoTherm Features:

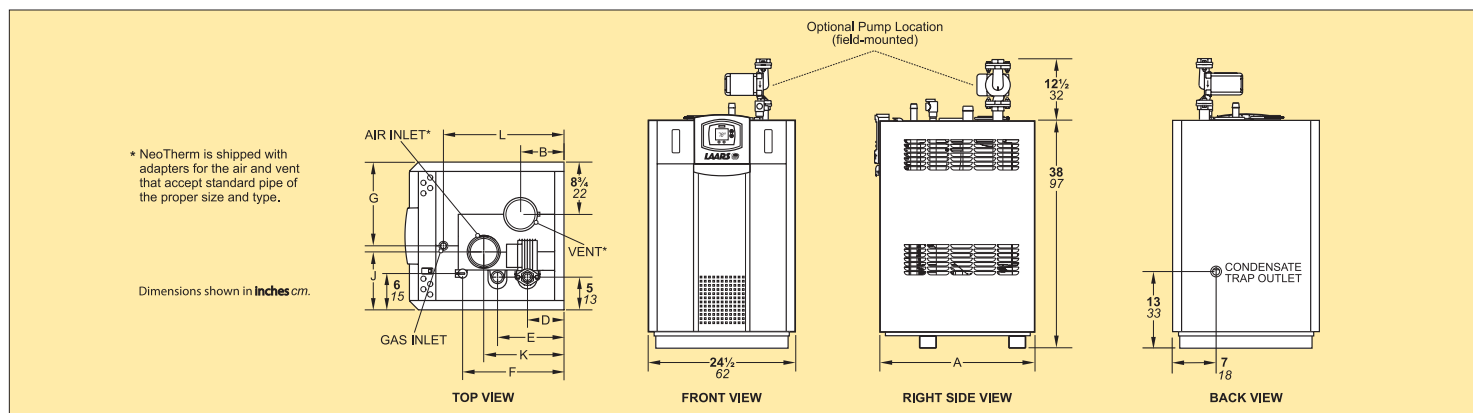
- Floor-standing condensing boiler
- All connections are on top of unit
- Stainless steel heat exchanger
- Rated for alcove and closet installations
- Easy to service
- Will qualify for Energy Rebates
- Low NOx emissions
- LAARS Integrated Control SystemSM
- Works with BAS

LAARS® NEOTHERM® HYDRONIC BOILER

Standard Equipment:

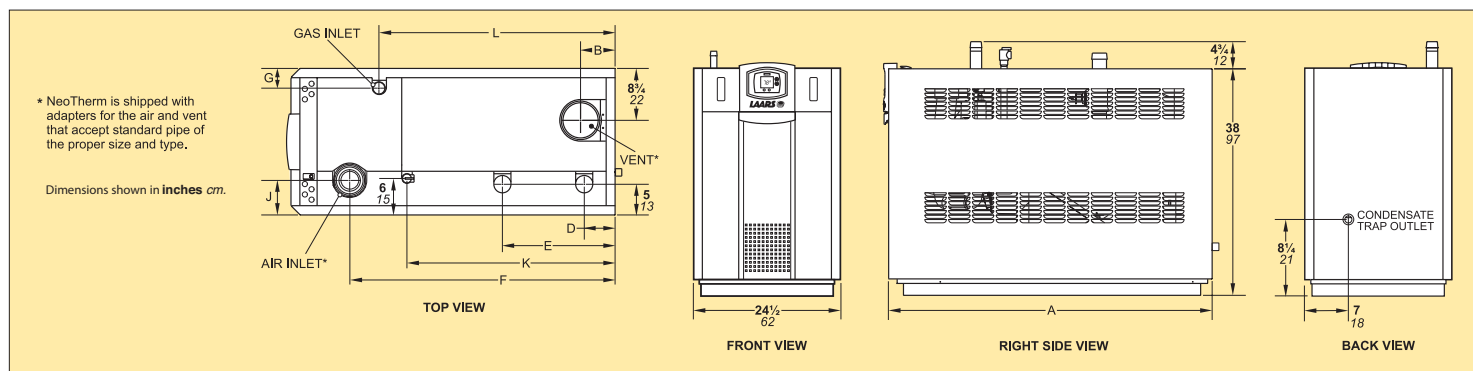
- High condensing efficiency
- Modulation down to 20% of full fire (5:1 turndown)
- Sealed combustion chamber
- Pre-mix stainless steel burner
- Low NO_x system exceeds the most stringent regulations for air quality — 10 ppm NO_x
- Horizontal or vertical direct vent
- Horizontal vent and air terminals
- Vent and air pipe lengths of up to 100 equivalent feet (each)
- Built-in condensate trap
- Vent temperature cutoff feature
- Direct spark ignition system
- Indirect water heater priority
- Sensor for indirect domestic water tank
- 160 psi maximum working pressure
- Stainless steel heat exchanger with welded construction (no gaskets)
- ASME "H" stamp
- 75 psi (517 kPa) ASME rated pressure relief valve
- Water flow switch (399-850 only)
- Temperature & pressure gauge
- Drain valve
- Multiple pump control for boiler pump, system pump and indirect domestic water pump, each with delay
- Optional pump (sized to model) available for field installation (285-500 only)
- Electronic PID modulating control stages up to eight boilers
- Large user-interface and display
- Alarm output
- Accepts external (4-20mA or 0-10V) modulation control
- Outdoor reset
- Outdoor air temperature sensor
- On/off toggle switch
- Manual reset high limit
- Burner site glass
- Zero clearance to combustible surfaces
- 12-year limited warranty

| Size | AFUE % | Thermal Efficiency % | Combustion Efficiency % |
|------|--------|----------------------|-------------------------|
| 285 | 95.7 | n/a | 94.4 |
| 399 | n/a | 94.0 | 95.6 |
| 500 | n/a | 95.0 | 95.0 |
| 600 | n/a | 95.3 | 96.0 |
| 750 | n/a | 96.6 | 96.4 |
| 850 | n/a | 95.7 | 95.4 |



| | A | | B | | D | | E | | F | | G | | J | | K | | L | | Air Inlet* | | Vent* | | Input | | Output | | Connection Size (NPT) | | Weight |
|------|----|----|----|----|-------|----|--------|----|--------|----|--------|----|-------|----|--------|----|--------|----|------------|----|-------|----|---------|-------|---------|-------|-----------------------|------|--------|
| Size | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | BTU/h | kW | BTU/h | kW | Water | Gas | |
| 285 | 26 | 66 | 7 | 18 | 6 | 15 | 11 | 28 | 17 | 43 | 14 | 36 | 9 3/4 | 25 | 13 1/4 | 34 | 20 1/4 | 51 | 4 1/2 | 11 | 4 1/2 | 11 | 285,000 | 83.5 | 269,040 | 78.8 | 1 1/4" | 3/4" | 276 |
| 399 | 31 | 79 | 5 | 13 | 4 1/4 | 11 | 14 1/4 | 37 | 21 1/2 | 55 | 19 1/4 | 49 | 8 1/4 | 21 | 18 1/2 | 47 | 25 | 64 | 4 1/2 | 11 | 4 1/2 | 11 | 399,000 | 116.9 | 375,000 | 109.9 | 1 1/4" | 3/4" | 346 |
| 500 | 37 | 94 | 5 | 13 | 4 1/4 | 11 | 15 | 38 | 26 | 66 | 20 1/2 | 52 | 5 3/4 | 15 | 20 | 51 | 27 1/4 | 69 | 4 1/2 | 11 | 4 1/2 | 11 | 500,000 | 146.5 | 475,000 | 139.2 | 1 1/2" | 1" | 381 |

Dimensions are nominal



| | A | | B | | D | | E | | F | | G | | J | | K | | L | | Air Inlet* | | Vent* | | Input | | Output | | Connection Size (NPT) | | Weight |
|------|----|-----|----|----|-------|----|----|----|--------|-----|-------|----|-------|----|--------|----|--------|-----|------------|----|-------|----|---------|-------|---------|-------|-----------------------|--------|--------|
| Size | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | in | cm | BTU/h | kW | BTU/h | kW | Water | Gas | |
| 600 | 38 | 97 | 5 | 13 | 4 1/4 | 11 | 15 | 38 | 20 | 51 | 3 | 8 | 5 3/4 | 15 | 26 | 66 | 29 3/4 | 76 | 4 1/2 | 11 | 4 1/2 | 11 | 600,000 | 175.8 | 576,000 | 167.0 | 1 1/2" | 1" | 394 |
| 750 | 51 | 130 | 5 | 13 | 5 | 13 | 19 | 48 | 40 1/2 | 103 | 3 1/4 | 8 | 5 3/4 | 15 | 30 1/2 | 77 | 35 1/4 | 90 | 4 1/2 | 11 | 6 1/2 | 17 | 750,000 | 219.8 | 723,000 | 208.9 | 2" | 1 1/2" | 469 |
| 850 | 55 | 140 | 5 | 13 | 5 | 13 | 19 | 48 | 44 1/2 | 113 | 3 1/2 | 8 | 5 3/4 | 15 | 35 | 89 | 39 3/4 | 101 | 4 1/2 | 11 | 6 1/2 | 17 | 850,000 | 249.1 | 810,000 | 236.7 | 2" | 1 1/2" | 502 |

Dimensions are nominal



View our entire product line at www.Laars.com



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