# **Mavien**

### Condensing Gas Hot Water Boiler

### NHB Series Hot Water Boilers Technical Data Sheet

- Certified design according to ANSI Z21.13 CSA 4.9 (latest version) standards for indoor residential applications
- Gas Input Ranges
  NHB-055 55,000 to 8,000 BTUh
  NHB-080 80,000 to 8,000 BTUh
  NHB-110 110,000 to 10,000 BTUh
  NHB-150 150,000 to 10,000 BTUh
- Turndown Ratio (TDR) of up to 15:1 one of the highest in its product class
- Dual Primary and Secondary Stainless Steel Heat Exchangers for optimum efficiency and durability
- Compatible with 2" PVC vent up to 60 ft\* and 3" PVC vent up to 150 ft\* ("with no elbows)
- Backlit Front Panel allows adjustment of hot water temperatures and boiler functions including Outdoor Reset Curve settings, pump operation, Integrated Low Water Safety Control, indirect DHW priority, and unit output capacity
- Low Voltage Terminal Strip contacts for thermostat or zone controller, indirect DHW tank thermostat, outdoor reset, 24 VAC device relay, air handler interrupt, and LWCO
- High Voltage Terminal Strip 120V contacts for use with boiler, system, and DHW pump wiring\*\* (\*\* 2A max per pump)
- Temperature Options two boiler operating setpoints: hydronic heating temperature and DHW (indirect) settings range from 77°F (25°C) up to 194°F (90°C)
- Ready-Link Cascade Compatible for up to 16 units with the use of Communication Cables #GXXX000546 (NHB-110 and NHB-150 models ONLY)
- Common Vent Compatible allows cascade systems to use a single exhaust and/or intake pipe for **up to 8 units** with the use of the Common Vent Backflow Damper Collar Kit **#30014367A** (NHB-110 and NHB-150 models ONLY)
- Compatible with NaviEnk. Wi-Fi Control (#PBCM-AS-001)
- Outdoor Reset Sensor (included) the unit controls will sense outdoor ambient temperatures and adjust the boiler operation for maximum comfort and efficiency
- External System Supply & Return Sensors (optional) additional controls provide optimum system performance
- AFUE Ratings NHB-055/080/110/150 - 95.0% (NG/LPG)
- Compatible with **Natural Gas (NG)** and **Propane (LPG)**\*\*\* (\*\*\* requires installation of included Field Conversion Kit by a qualified gas servicer)
- Certified by CSA, ASME, SCAQMD (Rule 1146.2 Type 1 Complies with 14 ng/J or 20 ppm NOx @ 3% 02)
- **15-Year** Heat Exchanger and **5-Year** Parts Warranty (Residential) **10-Year** Heat Exchanger and **3-Year** Parts Warranty (Commercial)\*\*\*\* (\*\*\*\*\* see Navien Limited Warranty)
- Optional accessories are available (see below)



Sleek Design - Compatible with 2" PVC Vent



INCLUDED Illuminated Front Panel with Advanced Hydronic Operation









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| Navien Condensing Boiler<br>Space Heating Ratings |                       |     |                                 |                                       |                     |  |  |  |
|---|-----------------------|-----|---------------------------------|---------------------------------------|---------------------|--|--|--|
| Model<br>Number <sup>1</sup>                      | Heating Input,<br>MBH |     | Heating Capacity <sup>2</sup> , | Net AHRI Rating, Water <sup>3</sup> , | AFUE <sup>2</sup> , |  |  |  |
|   | Min                   | Max | МВН                             | MBH                                   | %                   |  |  |  |
| NHB-055   | 8                     | 55  | 51                              | 44                                    | 95.0                |  |  |  |
| NHB-080   | 8                     | 80  | 74                              | 64                                    | 95.0                |  |  |  |
| NHB-110   | 10                    | 110 | 102                             | 89                                    | 95.0                |  |  |  |
| NHB-150   | 10                    | 150 | 138                             | 120                                   | 95.0                |  |  |  |

Ratings are the same for Natural Gas models converted to Propane use. Based on U.S. Department of Energy (DOE) test procedures.

The NET ARRY Mater Ratings shown are based on a piping and pickup allowance of 1.15. Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.

| Specifications                            |                              |  |              |                                   |              |  |  |  |  |
|---|------------------------------|--|--------------|-----------------------------------|--------------|--|--|--|--|
| ltem                                      |                              | NHB-055  | NHB-080      | NHB-110                           | NHB-150      |  |  |  |  |
| Dimensions                                |                              | 24in. (H) x 17in. (W) x 12in. (D)  |              | 24in. (H) x 17in. (W) x 13in. (D) |              |  |  |  |  |
| Weight                                    |                              | 73 lb (33 kg)  |              | 80 lb (36 kg)                     |              |  |  |  |  |
| Installation Type                         |                              | Indoor Wall-Hung   |              |                                   |              |  |  |  |  |
| Venting Type                              |                              | Forced Draft Direct Vent   |              |                                   |              |  |  |  |  |
| Ignition                                  |                              | Electronic Ignition  |              |                                   |              |  |  |  |  |
| Natural Gas Supply Pressure (from source) |                              | 3.5 in.–10.5 in. WC  |              |                                   |              |  |  |  |  |
| Propane Gas Supply Pressure (from source) |                              | 8.0 in.–13.5 in. WC  |              |                                   |              |  |  |  |  |
| Natural Gas Manifold Pressure             |                              | -0.03 in. WC   | -0.08 in. WC | -0.10 in. WC                      | -0.40 in. WC |  |  |  |  |
| Propane Gas Manifold Pressure             |                              | -0.03 in. WC   | -0.07 in. WC | -0.09 in. WC                      | -0.30 in. WC |  |  |  |  |
| Gas Connection Size                       |                              | 3/4 in. NPT  |              |                                   |              |  |  |  |  |
| Power Supply                              | Main Supply                  | 120V AC, 60Hz  |              |                                   |              |  |  |  |  |
|   | Maximum Power<br>Consumption | Less than 10A  |              |                                   |              |  |  |  |  |
| Materials                                 | Casing                       | Cold-rolled carbon steel   |              |                                   |              |  |  |  |  |
|   | Heat Exchangers              | Primary and Secondary: Stainless Steel   |              |                                   |              |  |  |  |  |
| Venting                                   | Exhaust                      | 2 in. or 3 in. PVC, CPVC, approved polypropylene* (* see Installation Manual for more details)<br>2 in. or 3 in. Special Gas Vent Type BH (Class III, A/B/C) |              |                                   |              |  |  |  |  |
|   | Intake                       | 2 in. or 3 in. PVC, CPVC, polypropylene<br>2 in. or 3 in. Special Gas Vent Type BH (Class III, A/B/C)  |              |                                   |              |  |  |  |  |
|   | Vent Clearance               | 0 in. to combustibles  |              |                                   |              |  |  |  |  |
| Safety Devices                            |                              | Flame Rod, APS, Gas Valve Operation Detector, Ignition Operation Detector<br>Water Temperature High Limit Switch, Exhaust Temperature High Limit Sensor      |              |                                   |              |  |  |  |  |

\*Navien reserves the right to change specifications at any time without prior notice