NHB
High Efficiency Condensing Boilers

Navien innovation available in a space-saving wall-hung boiler

NaviLink™ Wi-Fi remote control system… Available as an add-on accessory.
Navien NHB Series condensing boilers

As the leader in condensing technology, Navien reinvented the water heating industry with the award-winning NPE tankless water heaters and the NCB-E combi-boilers. Navien’s tradition of innovation continues with the NHB series high efficiency condensing boilers. All NHB boilers have Navien’s advanced burner system, an AFUE of 95.0% and industry-leading turndown ratios up to 15:1. The NHB boiler is available in four sizes: 55 MBH, 80 MBH, 110 MBH and 150 MBH.

Industry’s largest turndown ratio allows boiler to fire at highest operational efficiencies without frequent on and off cycling.

2" or 3" PVC, CPVC, PP and SS (see installation manual for more details).

Gives the installer the ability to maximize boiler performance and temperature control.

Recognized as Energy Star most efficient boiler.

Lighter gas vent type BH (Class III, A, B, C).

The cascading feature for 110 and 150 models will enable 1–16 units based on demand and balance workload for longer life.

The smart integrated control provides industry-leading options and features in the boiler operation parameters, including:

- Adjustable heat capacity
- A timed hydronic supply water boost feature
- Adjustable anti-cycle timer
- Freeze protection
- Pressure LWCO with manual reset
- Adjustable minimum burner time setting
- Adjustable turndown ratio timing
- Outdoor reset and domestic hot water priority
- Adjustable outdoor temperature reset curves
- Field gas convertible

Space saving

The sleek wall-hung design uses much less space than traditional floor standing boilers.

Easy to install

1/2" gas connections (subject to local code) and 2" PVC venting help reduce installation time.

Total control

All system setup, operations and troubleshooting available at your fingertips.

Before

After
NHB: the inside story

Inlet air filter  
Metal fiber premix burner  
Mixing gas chamber  
Dual Venturi for easy field convertibility  
Fan and motor  
Printed circuit board  
NHB Control  
Powder-coated enamel metal housing  

2” PVC exhaust venting capable up to 60’  
Air vent connection  
Ignition transformer  
Igniter and flame rod  
Primary stainless steel heat exchanger  
Pressure sensor and LWCO  
Secondary stainless steel heat exchanger  
Gas valve  
1/2” gas pipe capable up to 40’ (subject to local code)  
Condensate trap

Manifold kits

Navien’s manifold kits are ideal for hydronic space heating applications. With these manifolds, we have done the piping work for you. Both primary and secondary loop manifold kits are designed to work on all NHB models for fast and clean installations. All you need to add is your own appropriately sized pump.

NHB Primary Manifold Kit  
GFFM-MSOZUS-001  
NHB Secondary Manifold Kit  
GFFM-SKTZUS-001

THE LEADER IN CONDENSING TECHNOLOGY
Common venting up to 8 units and cascade capable up to 16 units

Navien’s two largest condensing boilers, NHB-110 and NHB-150, can be cascaded and common vented

With our cascading technology, when a unit gets up to 75% capacity determined by the supply and return temperatures, the next unit will enable to help meet the hydronic space heating requirements. This hydronic space heating requirement and demand ratio will continue until all units are generating the needed hydronic space heat up to the maximum cascaded capacity. The Navien cascading system also balances out the workload of each unit for longer life. The NHB is dual certified for single and 2-pipe venting applications.

Advanced filtration for hydronic heating systems

NaviClean™ magnetic boiler filter

NaviClean™ is designed to work with Navien NCB-E, NHB and NFB Series boilers. It is best suited for heating systems with 1" to 1-1/4" copper or black iron pipes. It features a permanent magnet mounted inside the glass reinforced nylon housing.

- Powerful permanent magnet for removing higher levels of iron oxide, sludge and debris
- 360° rotation allows flexibility of installation
- Inlet and outlet ports for rapid in-line installation
- Tool-free valve connection prevents cross threading
- Large canister and full flow valves result in minimal pressure drop and unrestricted flow
- Low profile drain valve makes installation and service easier
- High performance seals provide higher protection against leaks

In minutes, the NaviClean filter traps the debris, and water is clear
NaviLink™ Wi-Fi control
This add-on accessory will enable customers with smartphones and tablets to control temperatures remotely, access usage data and receive diagnostic notifications on all Navien products (NPE-A, NPE-S, NCB-E, NFB, NH-B).

PBCM-AS-001

SmartZone+ pump controller
Zone pump controller designed to work with NHB series units allowing control from 2 to 6 zone pumps.
2 Zones: PFMZ-02P-001
3 Zones: PFMZ-03P-001
4 Zones: PFMZ-04P-001
6 Zones: PFMZ-06P-001

NaviClean™ magnetic filter for boilers
This industry leading filtration device is designed to protect hydronic heating systems by capturing free floating iron oxides.
Note: for single boiler installations only.
GXXX001727

Commercial neutralizer
Designed to neutralize the condensate of up to 16 NHB series units.
GXXX001325

Replacement media for commercial neutralizer
GXXX001329

Light commercial neutralizer
Designed to neutralize the condensate of up to 6 NHB series units.
GXXX001324

Replacement media for light commercial neutralizer
GXXX001328

Common vent collar kit
Required for cascade/common vent installations with NHB series units produced on or after September 15, 2016. Includes cascade cable.
30014367A
Includes cascade cable (GXXX000546) and common vent collar damper.

Residential neutralizer kit, single unit
Residential condensate neutralizer for NHB series units designed to neutralize the condensate of one unit.
GXXX001322

Replacement media for residential neutralizer
GXXX001323

Plumb easy valve set, 1”
1” isolation valves without relief valve designed to work on NHB series units. Allows for easy and quick servicing of hydronic space heating systems.
30010950A

System supply & return censors
Designed to sense supply and return temperature of hydronic heating system. Works with all NHB series boilers. (Sold in pairs.)
GXXX001417

Universal temperature sensor
Designed to sense supply, return or tank temperature of hydronic heating system. Works with all NHB series boilers.
GXXX001769

Pumbing easy valve set, 1”
Plumb easy valve set, 1” isolation valves without relief valve designed to work on NHB series units. Allows for easy and quick servicing of hydronic space heating systems.

Ready-Link® rack (V3)
Base
GFFM-KDIZUS-005
Add-on
GFFM-KDIZUS-006

Light commercial neutralizer
Designed to neutralize the condensate of up to 6 NHB series units.
GXXX001328

Pumbing easy valve set, 1”
1” isolation valves without relief valve designed to work on NHB series units. Allows for easy and quick servicing of hydronic space heating systems.
30010950A

NHB Series boiler accessories
The Leader in Condensing Technology

The Leader in Condensing Technology
### Ratings & specifications

#### Navien Condensing Boiler Space Heating Ratings

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Heating Input, MBH</th>
<th>Heating Capacity, MBH</th>
<th>Net AHRI Rating, Water</th>
<th>AFUE, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHB-55</td>
<td>8</td>
<td>55</td>
<td>51</td>
<td>44</td>
</tr>
<tr>
<td>NHB-80</td>
<td>8</td>
<td>80</td>
<td>74</td>
<td>64</td>
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<tr>
<td>NHB-110</td>
<td>10</td>
<td>110</td>
<td>102</td>
<td>89</td>
</tr>
<tr>
<td>NHB-150</td>
<td>10</td>
<td>150</td>
<td>138</td>
<td>120</td>
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</table>

1. Ratings are the same for Natural Gas models converted to Propane use.
2. Based on U.S. Department of Energy (DOE) test procedures.
3. The NET AHRI Water 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

<table>
<thead>
<tr>
<th>Item</th>
<th>NHB-55</th>
<th>NHB-80</th>
<th>NHB-110</th>
<th>NHB-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>24” (600mm)</td>
<td>24” (600mm)</td>
<td>24” (600mm)</td>
<td>24” (600mm)</td>
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<tr>
<td>Weight</td>
<td>73 lbs (33 kg)</td>
<td>80 lbs (36 kg)</td>
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<td></td>
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<tr>
<td>Installation type</td>
<td>Indoor wall-hung</td>
<td>Indoor wall-hung</td>
<td>Indoor wall-hung</td>
<td>Indoor wall-hung</td>
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<tr>
<td>Venting type</td>
<td>Forced draft direct vent</td>
<td>Forced draft direct vent</td>
<td>Forced draft direct vent</td>
<td>Forced draft direct vent</td>
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<tr>
<td>Ignition</td>
<td>Electronic ignition</td>
<td>Electronic ignition</td>
<td>Electronic ignition</td>
<td>Electronic ignition</td>
</tr>
<tr>
<td>Natural gas supply pressure (from source)</td>
<td>3.5” – 10.5” WC</td>
<td>3.5” – 10.5” WC</td>
<td>3.5” – 10.5” WC</td>
<td>3.5” – 10.5” WC</td>
</tr>
<tr>
<td>Propane gas supply pressure (from source)</td>
<td>8.0” – 13.5” WC</td>
<td>8.0” – 13.5” WC</td>
<td>8.0” – 13.5” WC</td>
<td>8.0” – 13.5” WC</td>
</tr>
<tr>
<td>Natural gas manifold pressure</td>
<td>-0.03” WC</td>
<td>-0.08” WC</td>
<td>-0.10” WC</td>
<td>-0.40” WC</td>
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<tr>
<td>Propane gas manifold pressure</td>
<td>-0.03” WC</td>
<td>-0.07” WC</td>
<td>-0.09” WC</td>
<td>-0.30” WC</td>
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<tr>
<td>Gas connection size</td>
<td>3/4” NPT (female)</td>
<td>3/4” NPT (female)</td>
<td>3/4” NPT (female)</td>
<td>3/4” NPT (female)</td>
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<tr>
<td>Power supply</td>
<td>Main supply</td>
<td>120V AC, 60Hz</td>
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<tr>
<td>Maximum power consumption</td>
<td>Less than 10A</td>
<td>Less than 10A</td>
<td>Less than 10A</td>
<td>Less than 10A</td>
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<tr>
<td>Materials</td>
<td>Casing</td>
<td>Cold rolled carbon steel</td>
<td>Cold rolled carbon steel</td>
<td>Cold rolled carbon steel</td>
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<tr>
<td></td>
<td>Heat exchangers</td>
<td>Primary and secondary heat exchangers; stainless steel</td>
<td>Primary and secondary heat exchangers; stainless steel</td>
<td>Primary and secondary heat exchangers; stainless steel</td>
</tr>
<tr>
<td>Venting</td>
<td>Exhaust</td>
<td>2” or 3” PVC, CPVC, PP, SS (see installation manual for more details)</td>
<td>2” or 3” special gas vent type BH (Class III, A/B/C)</td>
<td>2” or 3” special gas vent type BH (Class III, A/B/C)</td>
</tr>
<tr>
<td></td>
<td>Intake</td>
<td>2” or 3” PVC, CPVC, PP, SS</td>
<td>2” or 3” special gas vent type BH (Class III, A/B/C)</td>
<td>2” or 3” special gas vent type BH (Class III, A/B/C)</td>
</tr>
<tr>
<td></td>
<td>Vent clearances</td>
<td>0” to combustibles</td>
<td>0” to combustibles</td>
<td>0” to combustibles</td>
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<tr>
<td>Safety devices</td>
<td>Flame rod, APS, gas valve operation detector, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor</td>
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</tbody>
</table>

Navien reserves the right to change specifications at any time without prior notice. Please refer to www.NavienInc.com to verify you have the most current information.

#### Gas input ranges

<table>
<thead>
<tr>
<th>Model</th>
<th>Range</th>
<th>TDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHB-55</td>
<td>8,000–55,000 BTU/H</td>
<td>7:1</td>
</tr>
<tr>
<td>NHB-80</td>
<td>8,000–80,000 BTU/H</td>
<td>10:1</td>
</tr>
<tr>
<td>NHB-110</td>
<td>10,000–110,000 BTU/H</td>
<td>11:1</td>
</tr>
<tr>
<td>NHB-150</td>
<td>10,000–150,000 BTU/H</td>
<td>15:1</td>
</tr>
</tbody>
</table>

#### Warranty

<table>
<thead>
<tr>
<th>Type</th>
<th>Residential*</th>
<th>Commercial</th>
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<tbody>
<tr>
<td>Heat Exchanger</td>
<td>15 year limited warranty</td>
<td>10 year limited warranty</td>
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<tr>
<td>Parts</td>
<td>5 years</td>
<td>3 years</td>
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<tr>
<td>Labor</td>
<td>1 year</td>
<td>1 year</td>
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</table>

*Applies to single family residential locations. For complete details please refer to the full warranty at NavienInc.com.