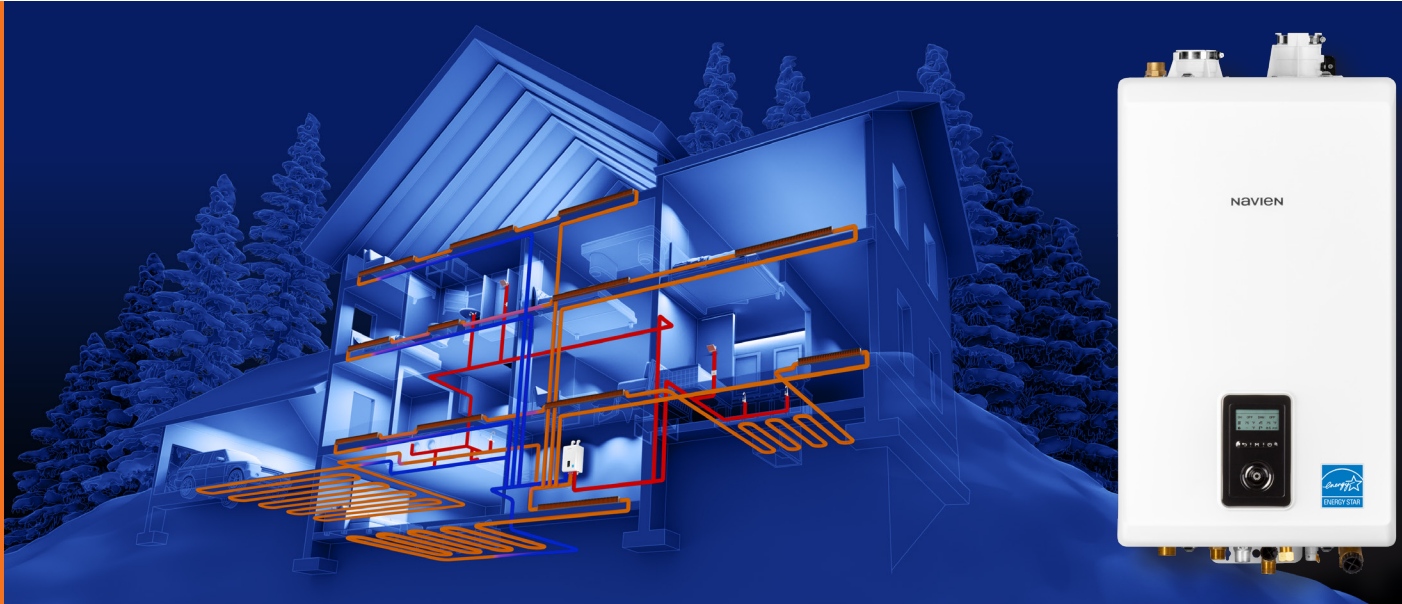
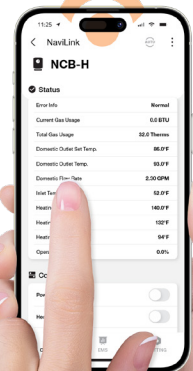


# NCB-H High Capacity Water Tube Condensing Combi-boilers



The highest selling brand  
of condensing combi-boilers  
takes home heating and  
DHW to new heights

NaviLink™ and Wi-Fi remote  
control system... available as  
an add-on accessory.



# NCB-H NAVIEN CONDENSING WATER TUBE HIGH CAPACITY COMBI-BOILERS

Aim high with Navien...  
High efficiency, High output,  
High performance,  
all in one compact combi

- **Highest** DHW maximum BTUs in residential combi-boilers... up to 210,000 per hour
- **Highest** DHW flow rate @ 70°F rise... up to 5.4 GPM
- **Highest** number of BTU sizes for the North American residential combi-boiler market
- **Highest** residential combi DHW TDR...15:1
- **Highest** residential combi heating TDR... up to 11:1\*
- **High altitude certification**... up to 10,100 feet (NG or LP)
- **Lowest minimum fire BTU** for residential combi-boilers... as low as 10,700
- Built-in zone controls for up to three zone valves or zone pumps
- Cascade capable with up to 15 NPE tankless water heaters for expanded DHW flow

\*Based on NCB-250/150H.



 **AFUE 95.0%**

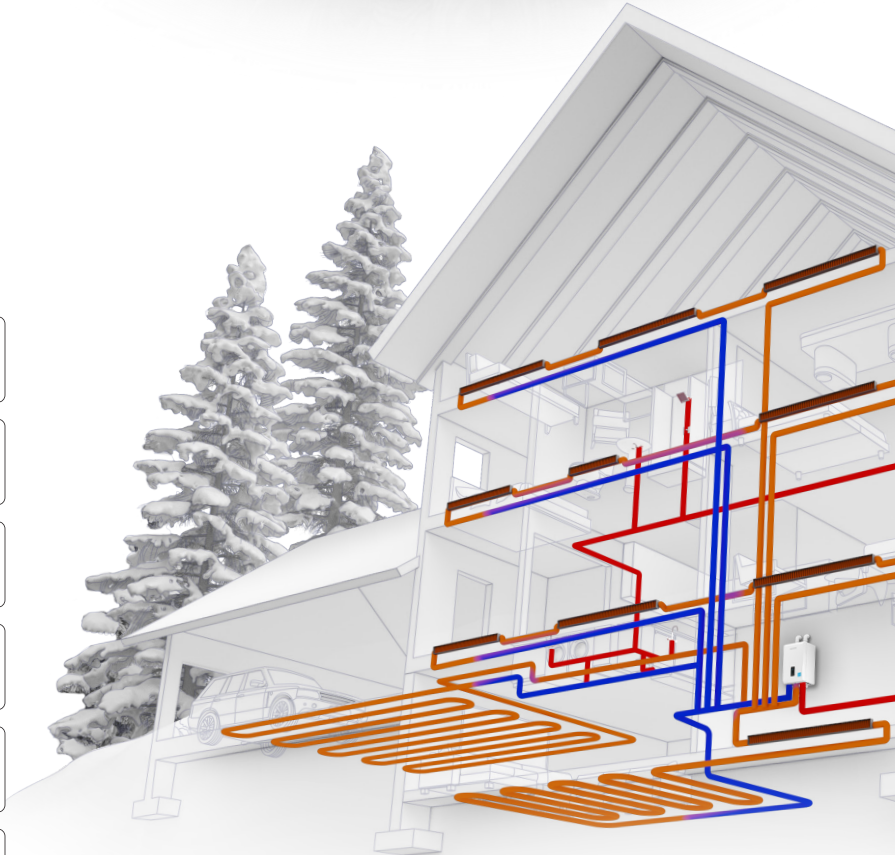
DUAL SS HX FOR HEATING & SEPARATE SS HX FOR DHW

**TDR UP TO 11:1 HTG 15:1 DHW**

**2" VENT UP TO 65 FEET & 1/2" GAS UP TO 24 FEET**

**NG or LP or NG HIGH ALTITUDE FIELD GAS CONVERTIBLE**

**5 MODELS FOR ANY SIZE HOME**



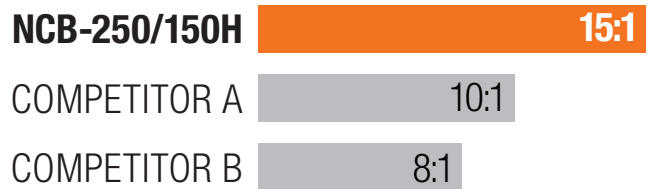
T H E L E A D E R I N C O N D E N S I N G T E C H N O L O G Y

# Navien NCB-H...leading the way with the complete combi package and no compromises

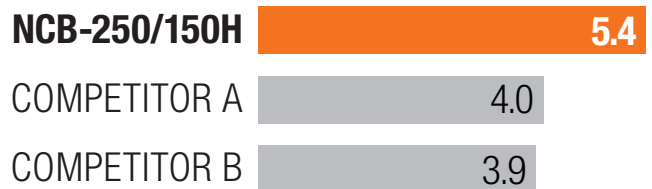
Navien's innovation and technological advancements have done it again. The new NCB-H is taking combi performance to the highest levels. As the competition tries to get closer, Navien ingenuity keeps advancing their lead.

## NCB-250/150H versus other 150,000 BTU combi-boilers

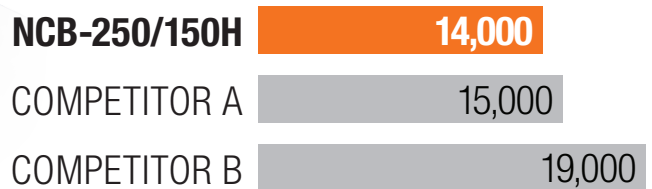
Highest Maximum DHW Turndown Ratio



Highest Gallons Per Minute @ 70°F Rise



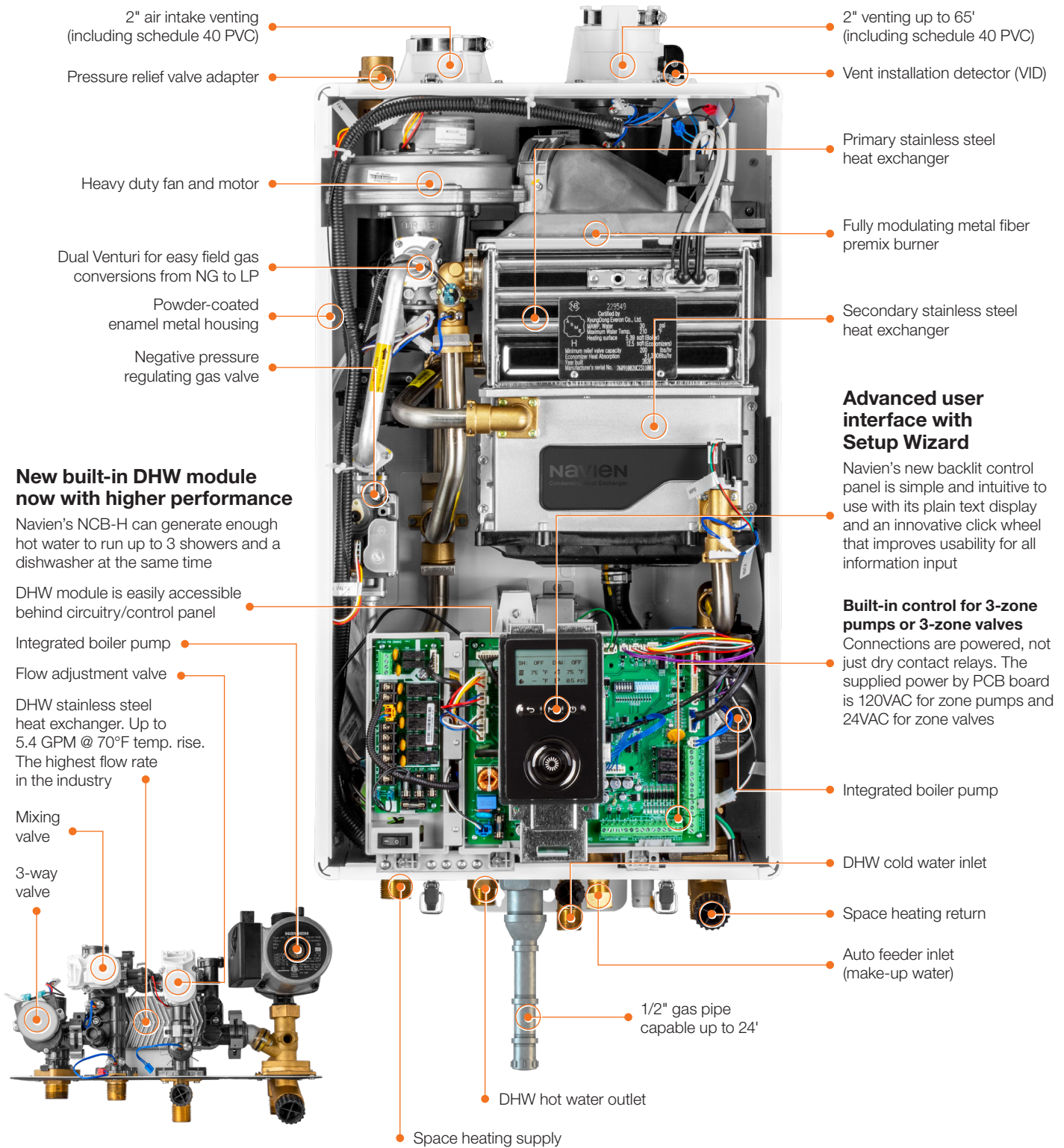
Lowest Minimum Fire BTU



**HEATING UP TO 150,000 BTU/H**  
**DHW UP TO 210,000 BTU/H**



# COMPARE THESE ADVANTAGES AND SEE WHY NCB-H COMBIS ARE THE RIGHT FIT FOR SMALL AND LARGE HOMES







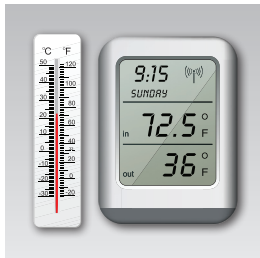
**Dual inputs of up to 150,000 BTU/H for heating and 210,000 BTU/H for DHW**

Satisfies all the space heating and domestic hot water requirements of most typical large homes.



**2" PVC venting and 1/2" gas pipe capability**

Save time and effort in retrofit application with 2" PVC venting up to 65' or up to 150' with 3" venting. 1/2" gas lines for up to 24' also speeds up installations.



**TDR 15:1 for DHW and up to 11:1 for heating**

The sophisticated gas flow control system provides a high turndown ratio, reducing energy waste and excessive boiler cycling and enhances temperature control for DHW.



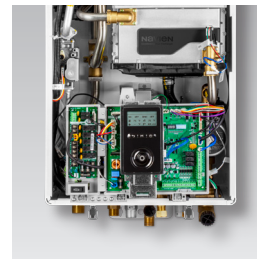
**Expanded DHW capability**

For increased domestic hot water flow demand, the NCB-H can be cascaded with up to 15 NPE units.



**Space saving and light weight design**

Navien's sleek wall-hung combi-boilers occupy 80% less space than traditional floor standing boilers and tank water heaters.



**Easy access to DHW module and valves**

All components of DHW module including water feed valve, flow adjustment valve, mixing valve and cartridge-style 3-way valve are right behind circuit board for easy serviceability.



**Dual stainless steel heat exchangers for heating and separate SS flat plate heat exchanger for DHW**

DHW heat exchanger delivers up to 5.4 GPM at 70°F temperature rise, the highest flow rate in the industry.



**5 NCB-H models for any size home**

Available in NCB-190/060H, NCB-190/080H, NCB-240/110H, NCB-240/130H, NCB-250/150H, giving you multiple options to match any size house, apartment, condo... big or small.



**Dual Venturi and field gas convertibility**

Dual Venturi system creates better combustion control and turndown ratio. Field gas convertibility is easy with orifice conversion kits for NG high altitude (5,400–10,100 ft.) and LP (up to 10,100 ft.) included with NCB-H Series combi-boilers.



# MORE REASONS TO CHOOSE NCB-H FOR YOUR NEXT APPLICATION

## NaviLink®

### Optional Wi-Fi control

This add-on accessory enables remote access from smartphones or tablets for temperature, usage data and diagnostics on NCB-H models.



**NaviLink**  
PBCM-AS-001



**NaviLink Lite**  
PBCM-AS-002

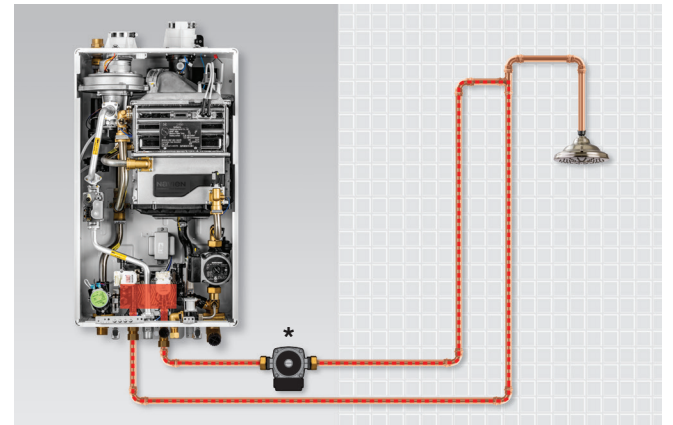


## HotButton®

### Optional DHW activation

At the push of a button, the HotButton hot water system activates the domestic hot water heat exchanger to heat water in the supply lines to provide hot water only when it's needed.

PZZZ-00046

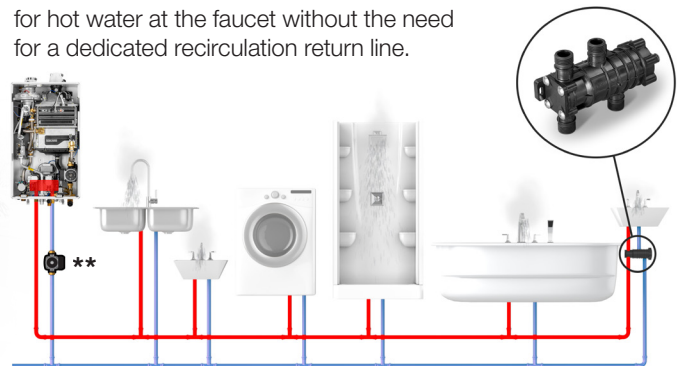


\*A dedicated recirculation line and external recirc pump are necessary and not included. See installation manual for details.

## NaviCirc™

### Optional recirculation valve for NCB-H combi-boilers

NaviCirc is a simple plumbing device that uses the existing hot and cold water lines to reduce the wait time for hot water at the faucet without the need for a dedicated recirculation return line.



PFFW-SXX-001, NaviCirc Kit: 30022965A.

\*\*External recirc pump and check valves not included.







## NCB-H combi-boiler accessories



### NaviClean magnetic filtration system

Removes higher levels of iron oxides, sludge and debris with powerful magnetic filter.

GXXX001727



### PeakFlow S Scale Prevention System

GPWC110001AC001

#### PeakFlowS Replacement Filter

GWFC110GD001



### SmartZone+ pump controller

Zone pump controller designed to work with NCB-H series units allowing control from 4 to 6 zone pumps. Adding the SmartZone control will also allow expansion of the built in NCB-H zoning.

2 Zones: PFMZ-02P-001

3 Zones: PFMZ-03P-001

4 Zones: PFMZ-04P-001

6 Zones: PFMZ-06P-001



### Common vent collar kit

Required for common venting the NCB-H with one or more NPE tankless water heaters.

30014367B

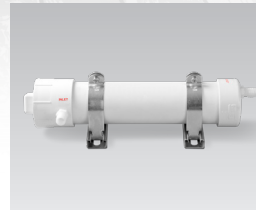
Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



### Combi-boiler primary manifold kit

This package includes new stainless steel manifold, isolation valves with gaskets, PRV/air vent/LWCO adapter tree, air vent, threaded connection adapter with clip and LWCO plug.

30026576B



### Light commercial neutralizer

Light commercial condensate neutralizer for up to 6 units (1 NCB-H and up to 5 NPE's).

GXXX001324

#### Replacement media for light commercial neutralizer

GXXX001328



### Residential neutralizer (V2)

Residential condensate neutralizer for NCB-H series units designed to neutralize the condensate of one unit.

GXXX002212

#### Replacement media for residential neutralizer

GXXX001323



### Cascade cable

Cascade with up to 15 NPE-A/S tankless water heaters.

GXXX000546



### Universal temperature sensor

Designed to sense supply, return or tank water temperature. Works with all NCB-H series combi-boilers.

GXXX001769



### Ready-Link® rack base (V3) and add-on rack(s)

#### Base (V3)

GFFMKDIZUS-005

#### Add-on (V3)

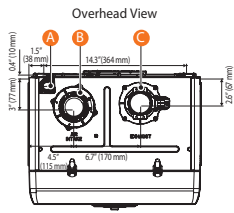
GFFMKDIZUS-006

Base

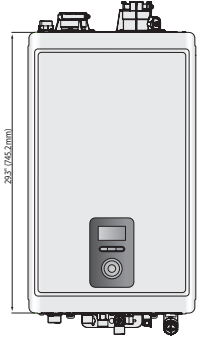
Add-on



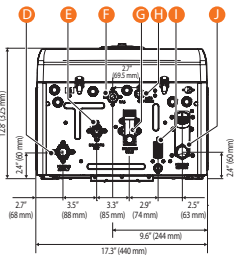
# Dimensions Ratings



Front View



Supply Connections



Connection Size

- A Pressure Relief Valve Adapter  $\varnothing$  3/4"
- B Air Intake  $\varnothing$  2"
- C Exhaust  $\varnothing$  2"
- D Heating Supply  $\varnothing$  1"
- E DHW Hot Water Outlet  $\varnothing$  3/4"
- F Gas Supply Inlet  $\varnothing$  3/4"
- G DHW Cold Water Inlet  $\varnothing$  3/4"
- H Auto Feeder Inlet (Make-up Water)  $\varnothing$  1/2"
- I Condensate Outlet  $\varnothing$  1/2"
- J Heating Return  $\varnothing$  1"

| Model Number <sup>1</sup> | Navien Condensing Boiler Space Heating Ratings |         |                                       |   | Other Specifications  |                |  |
|---------------------------|--|---------|---------------------------------------|---|-----------------------|----------------|--|
|                           | Heating Input (BTU/H)                          |         | Heating Capacity <sup>2</sup> (BTU/H) | Net AHRI Rating, Water <sup>3</sup> (BTU/H) | AFUE <sup>2</sup> (%) | Water Pressure | Water Connection Size (Supply, Return) |
|                           | Min  | Max     |                                       |   |                       |                |  |
| NCB-190/060H              | 11,000   | 60,000  | 56,000                                | 49,000                                      | 95.0                  | 12–30 psi      | 1" NPT                                 |
| NCB-190/080H              | 11,000   | 80,000  | 74,000                                | 64,000                                      |                       |                |  |
| NCB-240/110H              | 13,000   | 110,000 | 102,000                               | 89,000                                      |                       |                |  |
| NCB-240/130H              | 13,000   | 130,000 | 120,000                               | 104,000                                     |                       |                |  |
| NCB-250/150H              | 14,000   | 150,000 | 138,000                               | 120,000                                     |                       |                |  |

<sup>1</sup> Ratings are the same for natural gas models converted to propane use.  
<sup>2</sup> Based on U.S. Department of Energy (DOE) test procedures.  
<sup>3</sup> 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.

| Model Number | Navien Condensing Boiler Domestic Hot Water Ratings |         | Other Domestic Hot Water Specifications |                             |   |                     |          |
|--------------|---|---------|---|-----------------------------|---|---------------------|----------|
|              | Input Ratings (BTU/H)                               |         | Water Pressure PSI                      | Minimum Flow Rate GPM (L/m) | Flow Rate 45°F (25°C) Temp Rise GPM (L/m) | DHW Connection Size |          |
|              | Min   | Max     |   |                             |   | Supply              | Return   |
| NCB-190/060H | 10,700  | 160,000 | 15–150                                  | 0.5 (1.9)                   | 6.4 (24.2)                                | 3/4" NPT            | 3/4" NPT |
| NCB-190/080H |   |         |   |                             |   |                     |          |
| NCB-240/110H |   |         |   |                             |   |                     |          |
| NCB-240/130H |   |         |   |                             |   |                     |          |
| NCB-250/150H | 14,000  | 210,000 |   |                             |   |                     |          |

## Specifications

| Item                                      |                           | NCB-190/060H<br>NCB-190/080H   | NCB-240/110H<br>NCB-240/130H | NCB-250/150H           |
|---|---------------------------|--|------------------------------|------------------------|
| Dimensions                                |                           | 17.3" W x 29.3" H x 12.8" D  |                              |                        |
| Boiler weight                             | Empty                     | 87 lbs (40 kg)   | 96 lbs (44 kg)               |                        |
|   | With water                | 93 lbs (42 kg)   | 102 lbs (46 kg)              |                        |
| Installation type                         |                           | Indoor wall-hung   |                              |                        |
| Venting type                              |                           | Forced draft direct vent   |                              |                        |
| Ignition                                  |                           | Electronic ignition  |                              |                        |
| Natural gas supply pressure (from source) |                           | 3.5" to 10.5" WC   |                              |                        |
| Propane gas supply pressure (from source) |                           | 8.0" to 13.5" WC   |                              |                        |
| Natural gas manifold pressure             |                           | -0.01" WC to -0.31" WC   | -0.06" WC to -0.24" WC       | -0.06" WC to -0.26" WC |
| Propane gas manifold pressure             |                           | -0.04" WC to -0.33" WC   | -0.06" WC to -0.26" WC       | -0.06" WC to -0.28" WC |
| Gas connection size                       |                           | 3/4" NPT   |                              |                        |
| Power supply                              | Main supply               | 120V AC, 60Hz  |                              |                        |
|   | Maximum power consumption | Up to 15 amperes   |                              |                        |
| Materials                                 | Casing                    | Cold-rolled carbon steel   |                              |                        |
|   | Heat exchangers           | Stainless steel  |                              |                        |
| Venting                                   | Exhaust                   | 2" or 3" PVC, CPVC, approved polypropylene<br>2" or 3" special gas vent type BH (Class III, A/B/C)<br>2" or 3" stainless steel   |                              |                        |
|   | Intake                    | 2" or 3" PVC, CPVC, polypropylene<br>2" or 3" special gas vent type BH (Class III, A/B/C)<br>2" or 3" stainless steel  |                              |                        |
|   | Vent clearance            | 0" to combustibles   |                              |                        |
| Safety devices                            |                           | Flame Rod, APS, Ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor, water pressure sensor, burner high limit fuse, vent installation detector |                              |                        |

## DHW flow rates

| DHW Temp Rise °F (°C) | DHW Flow Rates GPM (L/m)     |                              |              |
|-----------------------|------------------------------|------------------------------|--------------|
|                       | NCB-190/060H<br>NCB-190/080H | NCB-240/110H<br>NCB-240/130H | NCB-250/150H |
| 35 (19)               | 8.2 (31.1)                   | 10.4 (39.5)                  | 10.8 (40.9)  |
| 40 (22)               | 7.2 (27.3)                   | 9.0 (34.1)                   | 9.5 (35.8)   |
| 45 (25)               | 6.4 (24.2)                   | 7.9 (30.0)                   | 8.4 (31.8)   |
| 50 (28)               | 5.8 (21.8)                   | 7.2 (27.3)                   | 7.6 (28.6)   |
| 55 (31)               | 5.2 (19.8)                   | 6.6 (25.0)                   | 6.9 (26.0)   |
| 60 (33)               | 4.8 (18.2)                   | 6.0 (22.7)                   | 6.3 (23.8)   |
| 67 (37)               | 4.3 (16.3)                   | 5.4 (20.4)                   | 5.6 (21.4)   |
| 70 (39)               | 4.1 (15.6)                   | 5.1 (19.3)                   | 5.4 (20.4)   |
| 77 (43)               | 3.7 (14.2)                   | 4.7 (17.8)                   | 4.9 (18.6)   |
| 80 (44)               | 3.6 (13.6)                   | 4.5 (17.0)                   | 4.7 (17.9)   |
| 85 (47)               | 3.4 (12.8)                   | 4.2 (15.9)                   | 4.4 (16.8)   |
| 90 (50)               | 3.2 (12.1)                   | 4.0 (15.1)                   | 4.2 (15.9)   |
| 100 (56)              | 2.9 (10.9)                   | 3.6 (13.6)                   | 3.8 (14.3)   |

## Temp settings

| Item          | Temperature Range °F (°C) | Remarks   |
|---------------|---------------------------|---|
| Space Heating | Supply                    | 77–185 (25–85)  |
|               | Return                    | 68–158 (20–70)  |
| DHW           | 86–140 (30–60)            | Actual supply and return temperatures vary depending on the selected outdoor reset curve. |

## Model transition

| Discontinued NCB-E   | New NCB-H   |
|--|---|
| NCB-150E<br>DHW: 12,000–120,000 BTU/H<br>HTG: 60,000 BTU/H             | NCB-190/060H<br>DHW: 10,700–160,000 BTU/H<br>HTG: 60,000 BTU/H  |
| NCB-180E<br>DHW: 14,000–150,000 BTU/H<br>HTG: 80,000 BTU/H             | NCB-190/080H<br>DHW: 10,700–160,000 BTU/H<br>HTG: 80,000 BTU/H  |
| NCB-210E<br>DHW: 18,000–180,000 BTU/H<br>HTG: 100,000 BTU/H            | NCB-240/110H<br>DHW: 13,300–199,900 BTU/H<br>HTG: 110,000 BTU/H |
| NCB-240E<br>DHW: 18,000–199,900 BTU/H<br>HTG: 120,000 BTU/H            | NCB-240/130H<br>DHW: 13,300–199,900 BTU/H<br>HTG: 130,000 BTU/H |
| <b>AN INDUSTRY FIRST</b>   |   |
| <b>NCB-250/150H</b><br>DHW: 14,000–210,000 BTU/H<br>HTG: 150,000 BTU/H |   |

## Warranty

| Residential Single Family Use Only |         |
|------------------------------------|---------|
| Heat exchanger                     | 10 year |
| Parts*                             | 5 year  |
| Labor                              | 1 year  |

\*Includes DHW flat plate HX.  
 Navien reserves the right to change specifications at any time without prior notice. Please refer to [www.NavienInc.com](http://www.NavienInc.com) to verify you have the most current information.



Navien Inc., 20 Goodyear, Irvine, CA 92618 800-519-8794 [navieninc.com](http://navieninc.com)  
 Navien Canada, Inc. 555 Hanlan Rd., Unit 7 Vaughan, ON L4L 4R8 800-519-8794 [navieninc.ca](http://navieninc.ca)



THE LEADER IN CONDENSING TECHNOLOGY