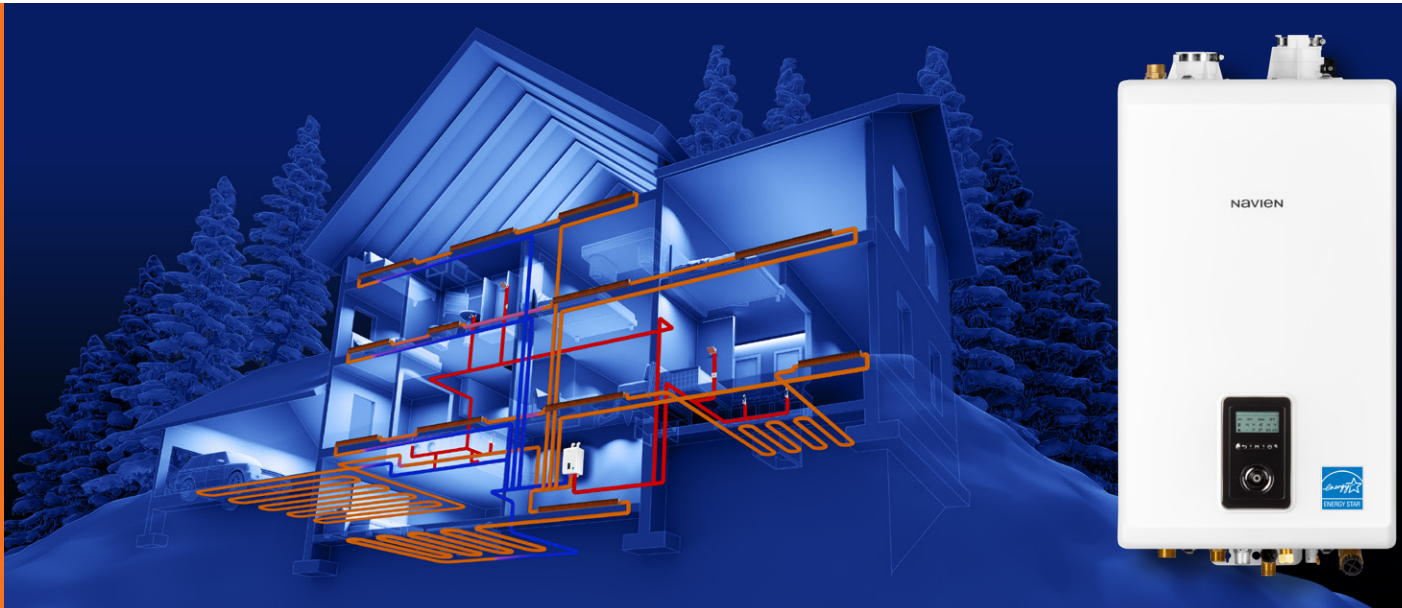


NCB-H Series



# New 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™ Wi-Fi remote  
control system...available as  
an add-on accessory.



THE LEADER IN CONDENSING TECHNOLOGY

# 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\*
- **Highest** number of built-in zone controls for valves or pumps... up to three
- **Highest** full lineup 2" venting lengths... up to 65 feet
- **Highest** number of cascade capable units with NPE tankless water heaters... up to 15
- **High altitude certification**... up to 10,100 feet (NG or LP)
- **Lowest minimum fire BTU** for residential combi-boilers... as low as 10,700

\*Based on NCB-250/150H.



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

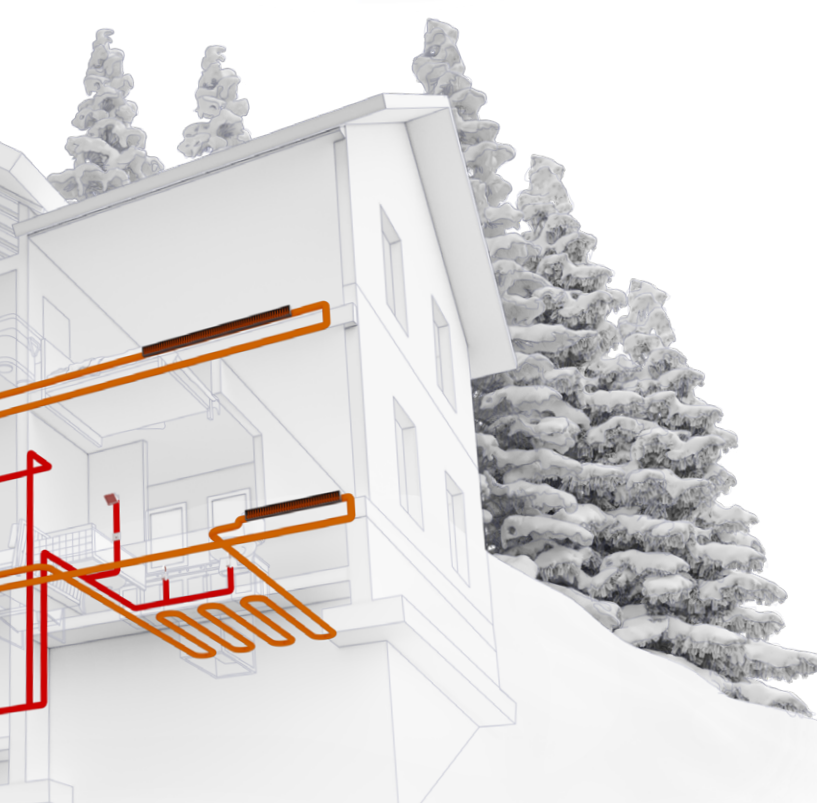
<b>NCB-250/150H</b>	<b>15:1</b>
COMPETITOR A	10:1
COMPETITOR B	8:1

Highest Gallons Per Minute @ 70°F Rise

<b>NCB-250/150H</b>	<b>5.4</b>
COMPETITOR A	4.0
COMPETITOR B	3.9

Lowest Minimum Fire BTU

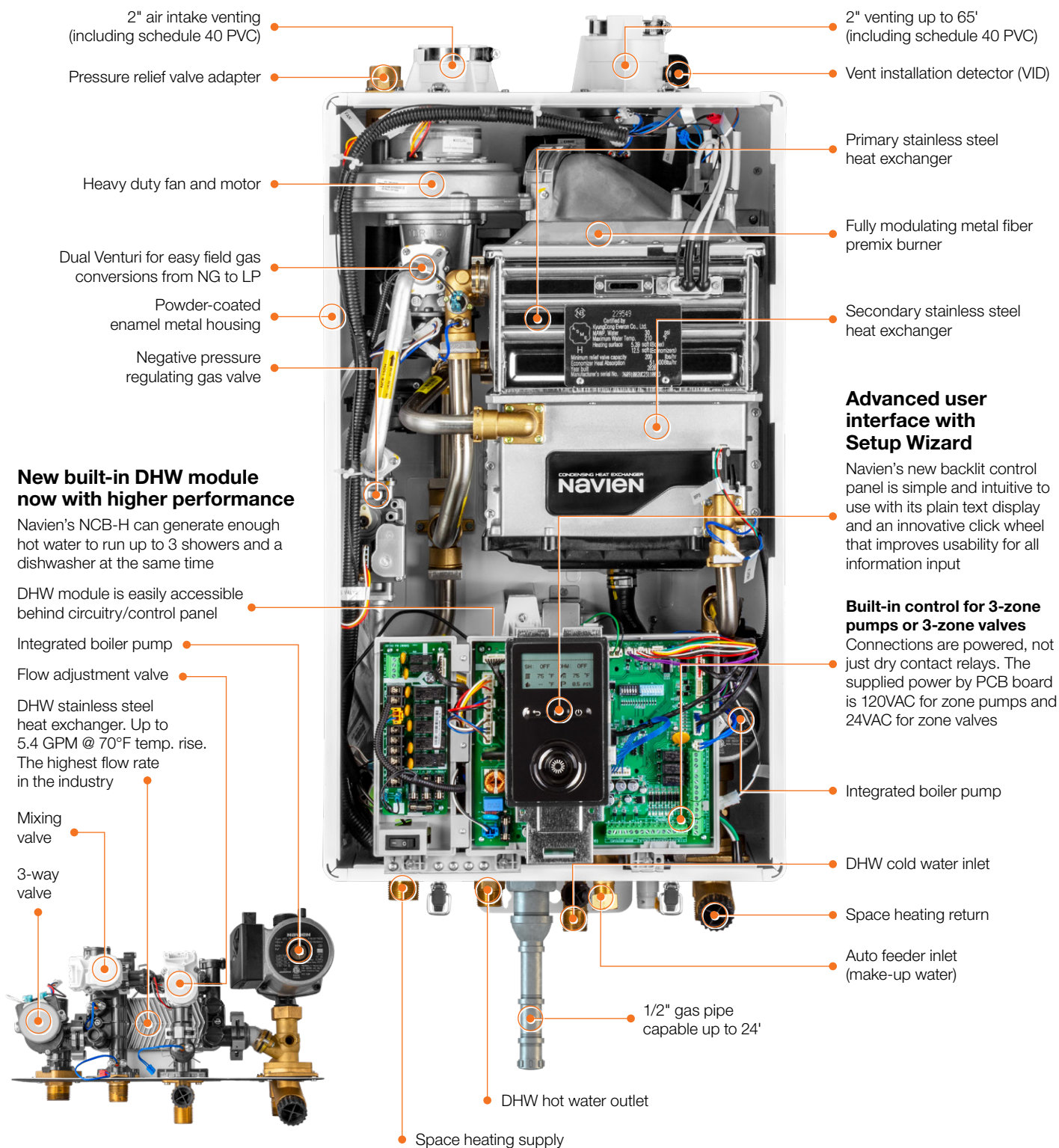
<b>NCB-250/150H</b>	<b>14,000</b>
COMPETITOR A	15,000
COMPETITOR B	19,000



**HEATING 150K BTU/H**  
**DHW 210K BTU/H**



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







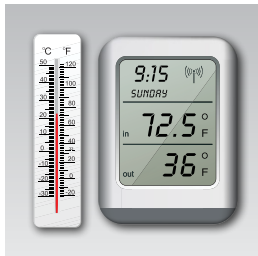
### Dual inputs of up to 150K BTU/H for heating and 210K BTU/H for DHW

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.



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

Stainless steel heat exchangers offer superior durability and corrosion resistance vs. copper. DHW heat exchanger delivers up to 5.4 GPM at 70°F temperature rise, the highest flow rate in the industry.



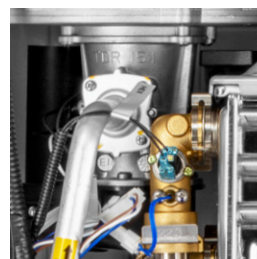
### Easy access to DHW module and valves

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.



### 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.



### 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.



### Low noise levels

Installations in or near media rooms, recreation rooms or any living areas of the house are possible with the quiet running NCB-H combi-boilers.



### 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.

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



## 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.

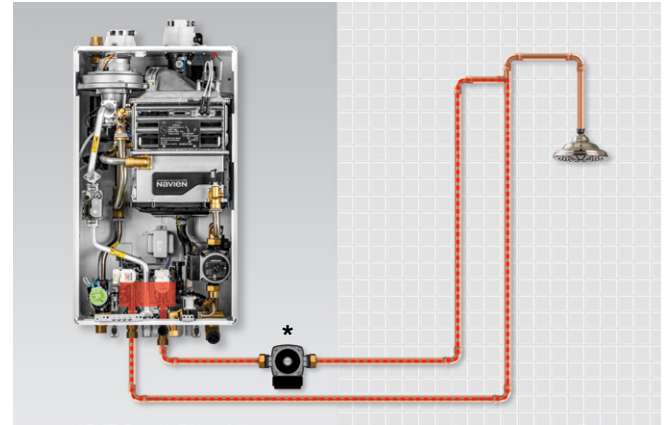
PBCM-AS-001



## 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.



## 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



### PeakFlowE™ anti-scale system

GXXX001725

#### PeakFlowE™ replacement media

GXXX001726

#### PeakFlow™ replacement media

GXXX001327



### 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.

30014367A

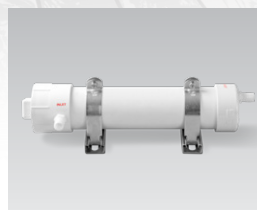
Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable.



### 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.

30026576A



### 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 kit

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

GXXX001322

#### 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)

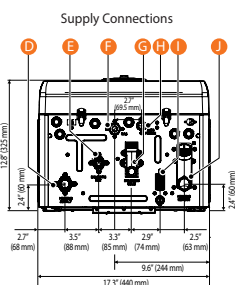
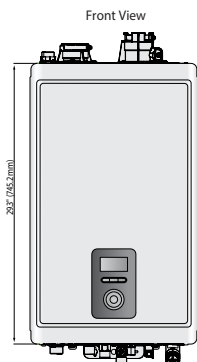
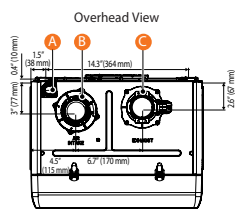
GFFMKDIZUS-006



## Dimensions

## Ratings

## DHW flow rates



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

<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.

Navien Condensing Boiler Domestic Hot Water Ratings			Other Domestic Hot Water Specifications					
Model Number	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	13,300	199,900			7.9 (30.0)			
NCB-240/130H								
NCB-250/150H	14,000	210,000			8.4 (31.8)			

## Specifications

Specifications				
Item		NCB-190/060H NCB-190/080H	NCB-240/110H 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 2" or 3" special gas vent type BH (Class III, A/B/C) 2" or 3" stainless steel		
	Intake	2" or 3" PVC, CPVC, polypropylene 2" or 3" special gas vent type BH (Class III, A/B/C) 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 Temp Rise °F (°C)	DHW Flow Rates GPM (L/m)		
	NCB-190/060H NCB-190/080H	NCB-240/110H 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)	Actual supply and return temperatures vary depending on the selected outdoor reset curve.
	Return	68–158 (20–70)	
DHW		86–140 (30–60)	

## Model transition

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

## 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.



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