

# QuickFacts



## NCB-H Series Combi-boilers

### Ratings & Specifications

	Model				
	NCB-190/060H	NCB-190/080H	NCB-240/110H	NCB-240/130H	NCB-250/150H
	<b>Product Approvals</b>				
<b>CSA</b>	Yes	Yes	Yes	Yes	Yes
<b>SCAQMD 1146.2</b> (NOx, <20 ppm)	Yes	Yes	Yes	Yes	Yes
<b>Low lead</b> (<0.25%, DHW only)	Yes	Yes	Yes	Yes	Yes
<b>ASME</b>	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp	Yes "H" stamp
<b>AHRI Number</b>	205661696	205661697	205400817	205400818	205400819
<b>Energy Star</b>	Yes	Yes	Yes	Yes	Yes
	<b>Space Heating Ratings</b>				
<b>AFUE, %</b>	95.0	95.0	95.0	95.0	95.0
<b>Heating Capacity, MBH</b>	56	74	102	120	138

### Applications

Air Handler	Closed Loop Hydronic Heating Systems
For NCB-H technical drawings of specific installations and requirements please visit <a href="http://NavienInc.com">NavienInc.com</a>	

### Heating Input Ranges

Model	Heating (BTU/H)	DHW (BTU/H)
NCB-190/060H	11,000–60,000	10,700–160,000
NCB-190/080H	11,000–80,000	
NCB-240/110H	13,000–110,000	13,300–199,900
NCB-240/130H	13,000–130,000	
NCB-250/150H	14,000–150,000	14,000–210,000

### Temperature Range 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)	

### Warranty

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

\*Includes DHW flat plate HX.

### Product Features

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 FIELD GAS CONVERTIBLE

3 ZONES VALVES or PUMPS

ADVANCED USER INTERFACE

AFUE 95.0%

### NCB-H: The Inside Story

2" air intake venting (including schedule 40 PVC)

Pressure relief valve adapter

Heavy duty fan and motor

Dual Venturi for easy field gas conversions from NG to LP

Powder-coated enamel metal housing

Negative pressure regulating gas valve

2" venting up to 65' (including schedule 40 PVC)

Vent Installation Detector (VID)

Primary stainless steel heat exchanger

Fully modulating metal fiber premix burner

Secondary stainless steel heat exchanger

**New built-in DHW module now with higher performance**  
Navien's NCB-H can generate enough hot water to run up to 3 showers and a dishwasher at the same time  
DHW module is easily accessible behind circuitry/control panel

**Advanced user interface with Setup Wizard**  
Navien's new backlit control panel is simple and intuitive to use with its plain text display and an innovative click wheel that improves usability for all information input

**Built-in control for 3-zone pumps or 3-zone valves**  
Connections are powered, not just dry contact relays. The supplied power by PCB board is 120VAC for zone pumps and 24VAC for zone valves

Integrated boiler pump

Flow adjustment valve

DHW stainless steel heat exchanger. Up to 5.4 GPM @ 70°F temp. rise. The highest flow rate in the industry

Mixing valve

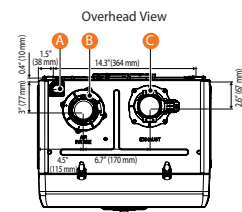
3-way valve

Space heating supply

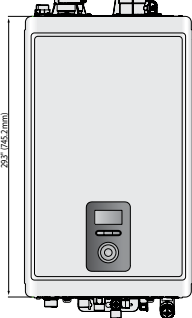
DHW hot water outlet

1/2" gas pipe capable up to 24'

## Dimensions

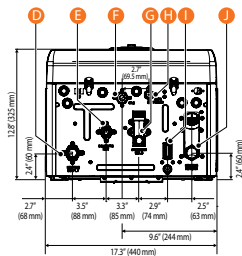


Overhead View



Front View

Supply Connections



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

## Ratings & Specifications

Model Number <sup>1</sup>	Navien Condensing Boiler Space Heating Ratings				AFUE <sup>2</sup> (%)	Water Pressure	Water Connection Size (Supply, Return)
	Heating Input (BTU/H)		Heating Capacity <sup>2</sup> (BTU/H)	Net AHRI Rating Water <sup>3</sup> (BTU/H)			
	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.

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)		

Item	Specifications			
	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			

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.

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)	

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	

## Accessories

NaviLink™ Wi-Fi Control PBCM-AS-001	Combi-boiler Primary Manifold Kit 30026576A	Residential Neutralizer (1 unit) GXXX001322	Light Commercial Neutralizer (up to 6 units) GXXX001324	PeakFlowE™ Anti-scale System GXXX001725	NaviCirc™ Recirculation Valve PFFW-SXX-001	Cascade Cable GXXX000546	Zone Pump Controller 2 Zones PFMZ-02P-001	Universal Temperature Sensor GXXX001769	Common Vent Collar Kit 30014367B	NaviClean™ Magnetic Filter for Boilers GXXX001727	Ready-Link® Rack Base (V3) and Add-on Rack(s) Base (V3) GFFMKDIZUS-005
NaviLink™ Cable GXXX001659		Residential Replacement Media GXXX001323	Light Commercial Replacement Media GXXX001328	PeakFlowE™ Replacement Media GXXX001726	NaviCirc™ Kit 30022965A		3 Zones PFMZ-03P-001		Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable		6 Zones PFMZ-06P-001



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