

QuickFacts



NCB-H Series Combi-boilers

Ratings & Specifications

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

Heating Input Ranges

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

Temperature Range 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.

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

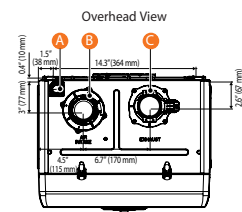
ADVANCED USER INTERFACE

AFUE 95.0%

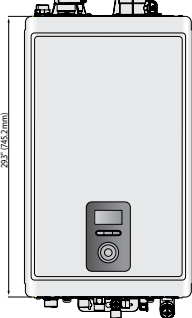
NCB-H: The Inside Story

- 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
- 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
- DHW cold water inlet
- Space heating return
- Auto feeder inlet (make-up water)
- 1/2" gas pipe capable up to 24'
- DHW hot water outlet
- Space heating supply
- Mixing valve
- 3-way valve
- DHW stainless steel heat exchanger. Up to 5.4 GPM @ 70°F temp. rise. The highest flow rate in the industry
- DHW module is easily accessible behind circuitry/control panel
- 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

Dimensions

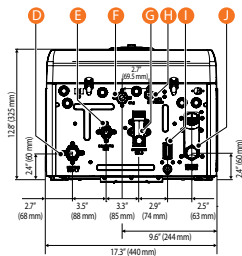


Overhead View



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"

Ratings & Specifications

Model Number ¹	Navien Condensing Boiler Space Heating Ratings				AFUE ² (%)	Water Pressure	Water Connection Size (Supply, Return)
	Heating Input (MBH)		Heating Capacity ² (MBH)	Net AHRI Rating Water ³ (MBH)			
	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			

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.

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 With water	87 lbs (40 kg) 93 lbs (42 kg)	96 lbs (44 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 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
NCB-150E DHW: 12,000–120,000 BTU/H HTG: 60 MBH	NCB-190/060H DHW: 10,700–160,000 BTU/H HTG: 60 MBH
NCB-180E DHW: 14,000–150,000 BTU/H HTG: 80 MBH	NCB-190/080H DHW: 10,700–160,000 BTU/H HTG: 80 MBH
NCB-210E DHW: 18,000–180,000 BTU/H HTG: 100 MBH	NCB-240/110H DHW: 13,300–199,900 BTU/H HTG: 110 MBH
NCB-240E DHW: 18,000–199,900 BTU/H HTG: 120 MBH	NCB-240/130H DHW: 13,300–199,900 BTU/H HTG: 130 MBH
AN INDUSTRY FIRST	
NCB-250/150H DHW: 14,000–210,000 BTU/H HTG: 150 MBH	

Accessories

NaviLink™ Wi-Fi Control PBCM-AS-001 NaviLink™ Cable GXXX001659	Combi-boiler Primary Manifold Kit 30026576A	Residential Neutralizer (1 unit) GXXX001322 Residential Replacement Media GXXX001323	Light Commercial Neutralizer (up to 6 units) GXXX001324 Light Commercial Replacement Media GXXX001328	PeakFlow™ Anti-scale System GXXX001725 PeakFlow™ Replacement Media GXXX001726 PeakFlow™ Replacement Media GXXX001327	NaviCirc™ Recirculation Valve NaviCirc™ PFFW- SXX-001 NaviCirc™ Kit 30022965A	Cascade Cable GXXX000546	Zone Pump Controller 2 Zones PFMZ-02P-001 3 Zones PFMZ-03P-001 4 Zones PFMZ-04P-001 6 Zones PFMZ-06P-001	Universal Temperature Sensor GXXX001769	Common Vent Collar Kit 30014367A Includes cascade cable (GXXX000546), common vent collar damper and VID jumper cable	NaviClean™ Magnetic Filter for Boilers GXXX001727	Ready-Link® Rack Base (V3) and Add-on Rack(s) Base (V3) GFFMKDIZUS-005 Add-on (V3) GFFMKDIZUS-006



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