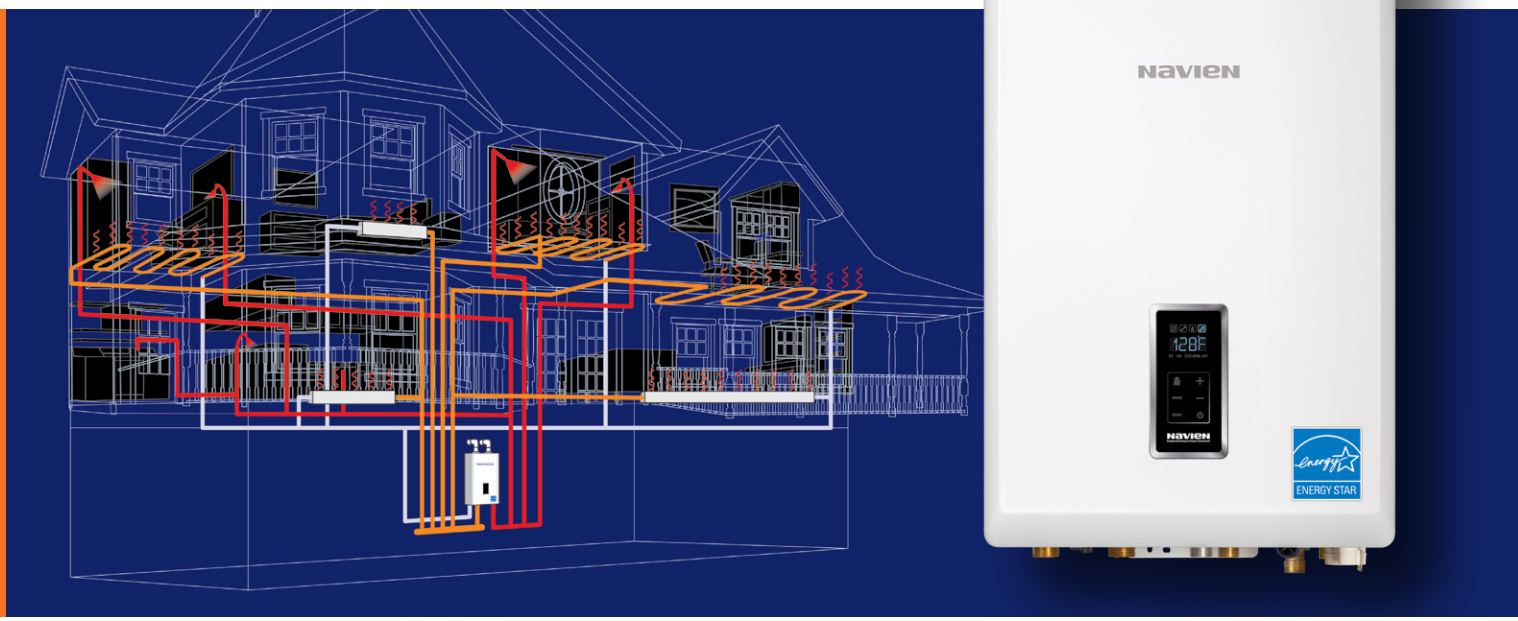
NCB-E
Combi-boilers



The first high efficiency condensing combi-boilers that can do it all... for larger homes

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

THE LEADER IN CONDENSING TECHNOLOGY

Navien NCB-E combi-boiler

The only compact combi-boiler strong enough to support heating and DHW for the whole house

Navien NCB-E is the first high efficiency condensing combi-boiler with the capacity to supply both heat and domestic hot water for larger homes — enough hydronic heat for a whole house, plus hot water to run two showers and a dishwasher all at the same time.

AFUE 95.0%

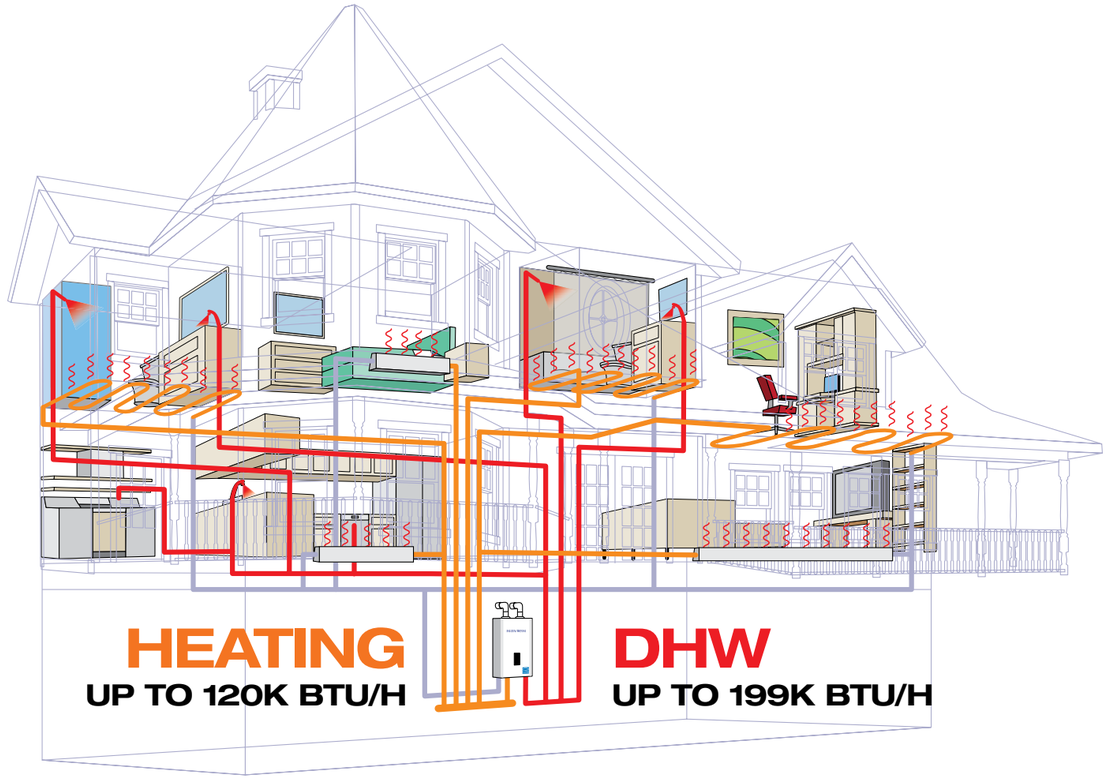
TDR UP TO 6:1 HTG 11:1 DHW

2"–3" VENTING LONG DISTANCES

NG OR LP

HTG & DHW 120k BTU/h 199k BTU/h

The Navien NCB-E also saves installation time and reduces call backs. In addition, the NCB-E takes up 80% less space than a traditional floor standing boiler and storage tank. Your customer now has more room, saves energy and enjoys all the hot water they need, whenever they want it.

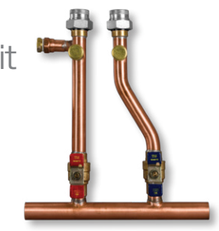


Available in four sizes

Model	Heating BTU/H	DHW BTU/H
NCB-150E	12,000–60,000	12,000–120,000
NCB-180 / NCB-180E	14,000–80,000	14,000–150,000
NCB-210 / NCB-210E	18,000–100,000	18,000–180,000
NCB-240 / NCB-240E	18,000–120,000	18,000–199,900

Primary manifold kit

For fast installation and maximum efficiency, install our system matched manifold kit.



Applications

Air Handler	Hydronic Heating		
	Hydronic fan coils	Baseboard radiators	Radiant floors
For NCB/NCB-E technical drawings of specific installations and requirements, please visit NavienInc.com.			

Warranty

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

*Includes DHW flat plate HX.

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THE LEADER IN CONDENSING TECHNOLOGY

Compare these advantages to any condensing combi system

Dual inputs of up to 120k BTU/H for heating and 199k BTU/H for DHW

Supplies all the heat and domestic hot water that most houses require.

4.5 GPM@77° temperature rise for domestic hot water

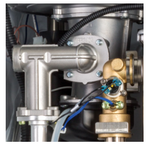
Separate stainless steel flat plate heat exchanger for DHW creates the highest flow rate for any combi-boiler in the industry.

Turndown ratio of 6:1 for heating and 11:1 for DHW

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

Dual stainless steel heat exchangers

Stainless steel heat exchangers provide better protection than copper against corrosion, resulting in longer life and improved heat recovery from flue gases for superior efficiency.



Field gas convertibility

Dual venturi system allows for easy field convertibility from NG to LP operation. Orifice for LP conversion included.

PVC venting

Low exhaust gas temperatures allow use of PVC, CPVC, ULC S636, polypropylene and stainless steel vent systems, reducing installation time and costs. System can use 2" venting for up to 60', or up to 150' with 3" venting.

Low gas pressure operation

Our negative pressure gas valve ensures maximum performance all the way down to a minimum gas pressure of 3.5" of water column.

Uses existing 1/2" gas piping

Save time and effort in retrofit applications with 1/2" gas lines for up to 24'. Subject to local code.

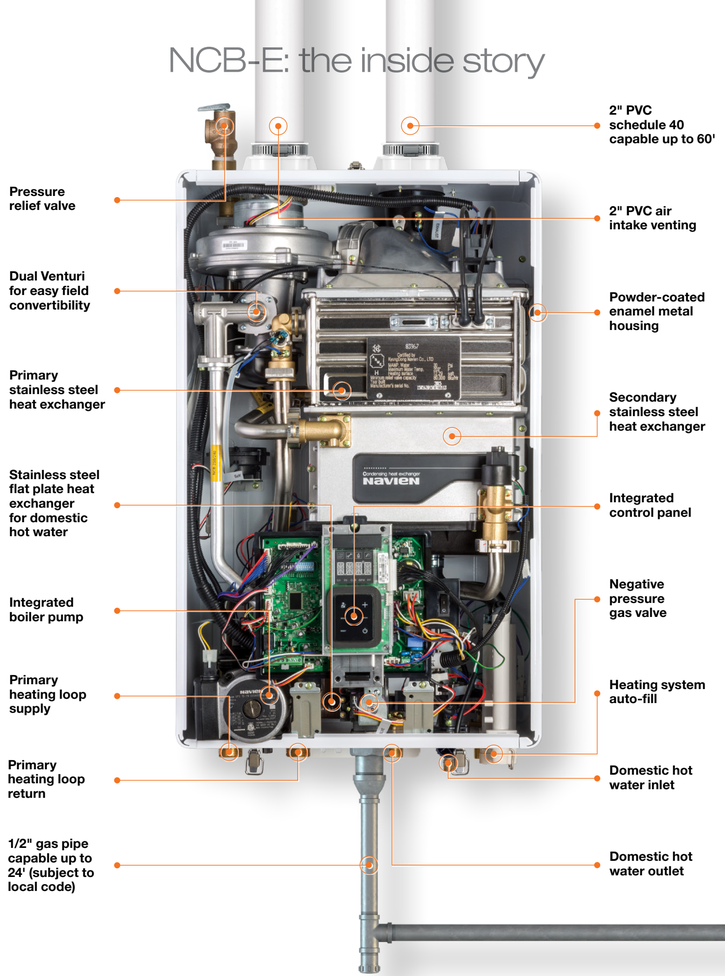
Space saving design

Occupies 80% less space than a traditional floor standing boiler and storage tank.

Linkability

For extraordinarily large domestic hot water flow demand, the NCB-E can be cascaded with NPE tankless water heaters

NCB-E: the inside story



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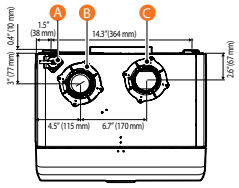
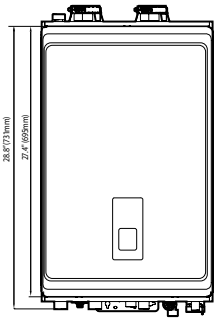
Dimensions

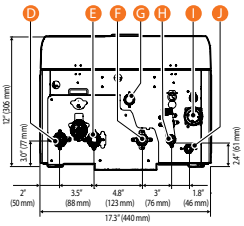
Overhead View



Front View



Supply Connections



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

Ratings & specifications

Navien Combination Boiler Space Heating Ratings						Other Specifications	
Model Number1	Heating Input, MBH		Heating Capacity2, MBH	Net AHRI Rating, Water3, MBH	AFUE2, %	Water Pressure	Water Connection Size (Supply, Return)
	Min	Max					
NCB-150E	12	60	56	49	95.0	12-30 psi	1" NPT
NCB-180 / NCB-180E	14	80	75	65	95.0		
NCB-210 / NCB-210E	18	100	94	82	95.0		
NCB-240 / NCB-240E	18	120	112	97	95.0		

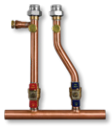
[1] Ratings are the same for Natural Gas models converted to Propane use.
[2] Based on U.S. Department of Energy (DOE) test procedures.
[3] The NET AHRI Water Ratings shown are based on a piping and pickup allowance of 1.15.
Consult Navien before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.

Specifications					
Item		NCB-150E	NCB-180 / NCB-180E	NCB-210 / NCB-210E	NCB-240 / NCB-240E
Gas input	Space heating	12,000–60,000 BTU/H	14,000–80,000 BTU/H	18,000–100,000 BTU/H	18,000–120,000 BTU/H
	Domestic hot water	12,000–120,000 BTU/H	14,000–150,000 BTU/H	18,000–180,000 BTU/H	18,000–199,900 BTU/H
Flow rate (DHW)	77°F (43°C) Temp Rise	2.6 GPM (9.8 L/m)	3.4 GPM (12.9 L/m)	4.0 GPM (15.1 L/m)	4.5 GPM (17.0 L/m)
Dimensions		17"(W) x 28"(H) x 12"(D)	17"(W) x 28"(H) x 12"(D)	17"(W) x 28"(H) x 12"(D)	17"(W) x 28"(H) x 12"(D)
Weight		66 lbs (30kg)	74 lbs (34kg)	84 lbs (38kg)	84 lbs (38kg)
Installation type		Indoor wall-hung			
Venting type		Forced draft direct vent			
Ignition		Electronic ignition			
Water pressure (Hydronic / DHW)		12–30 PSI / 15–150 PSI			
Natural gas supply pressure (from source)		3.5" –10.5" WC			
Propane gas supply pressure (from source)		8.0" –13.5" WC			
Natural gas manifold pressure (min/max)		-0.08" WC / -0.34" WC	-0.07" WC / -0.66" WC	-0.05" WC / -0.36" WC	-0.06" WC / -1.20" WC
Propane gas manifold pressure (min/max)		-0.08" WC / -0.30" WC	-0.07" WC / -0.62" WC	-0.10" WC / -0.66" WC	-0.03" WC / -0.98" WC
Minimum flow rate (DHW)		0.5 GPM (1.9 L/m)			
Connection sizes	Heating supply/return	1" NPT			
	DHW inlet/outlet	3/4" NPT			
	Gas inlet	3/4" NPT			
	Auto feeder	1/2" NPT			
	Condensate outlet	1/2" NPT			
Power supply	Main supply	120V AC, 60Hz			
	Maximum power consumption	200W (up to 2 amperes)			
Materials	Casing	Cold rolled carbon steel			
	Heat exchangers	Primary/secondary heat exchanger: stainless steel DHW heat exchanger: stainless steel			
Venting	Exhaust	2" or 3" PVC, CPVC, PP, SS 2" or 3" special gas vent type BH (Class II, A/B/C)			
	Intake	2" or 3" PVC, CPVC, PP, SS 2" or 3" special gas vent type BH (Class II, A/B/C)			
	Vent clearances	0" to combustibles			
Safety devices		Flame rod, APS, gas valve operation detector, ignition operation detector, water temperature high limit switch, exhaust temperature high limit sensor			

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.

Accessories

NaviLink™ Wi-Fi Control
PBCM-AS-001



NCB Series Primary Manifold Kit
(GFFM-MCOZUS-001)

Secondary Manifold Kit
(GFFM-SKTZUS-001)

Plumb Easy Valve Set
1" Standard
(30010950A)
3/4" Standard with Relief Valve
(30009323A)

Residential Neutralizer (1 unit)
(GXXX001322)
Residential Replacement Media
(GXXX001323)

Light Commercial Neutralizer (up to 6 units)
(GXXX001324)
Light Commercial Replacement Media
(GXXX001328)

PeakFlowE™ Anti-Scale System
(GXXX001725)
PeakFlowE™ Replacement Media
(GXXX001726)
PeakFlow™ Replacement Media
(GXXX001327)

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)

Outdoor Sensor and wire
(30012950A)

NaviClean™ Magnetic Boiler Filter
(GXXX001727)

Navien Inc., 20 Goodyear, Irvine, CA 92618 800-519-8794 NavienInc.com

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