

# NCB-E Series

## Combi-boilers

### Quick Facts Sheet



### Navien Certification Summary

Model	Product Approvals						Space Heating Ratings	
	CSA	SCAQMD 1146.2 (NOx, <20ppm)	Low Lead (<0.25%) (DHW Only)	ASME	AHRI Number	Energy Star	AFUE, %	Heating Capacity, MBH
NCB-150E	Yes	Yes	Yes	Yes "H" Stamp	8580769	Yes	95.0	56
NCB-180 / NCB-180E	Yes	Yes	Yes	Yes "H" Stamp	6809325 / 8580770	Yes	95.0	75
NCB-210 / NCB-210E	Yes	Yes	Yes	Yes "H" Stamp	6809429 / 8580771	Yes	95.0	94
NCB-240 / NCB-240E	Yes	Yes	Yes	Yes "H" Stamp	6809473 / 8580772	Yes	95.0	112

### Gas Input Ranges

Model	Space Heating	Domestic Hot Water
NCB-150E	12,000-60,000 BTU/H	12,000-120,000 BTU/H
NCB-180 / NCB-180E	14,000-80,000 BTU/H	14,000-150,000 BTU/H
NCB-210 / NCB-210E	18,000-100,000 BTU/H	18,000-180,000 BTU/H
NCB-240 / NCB-240E	18,000-120,000 BTU/H	18,000-199,900 BTU/H

### Warranty Package

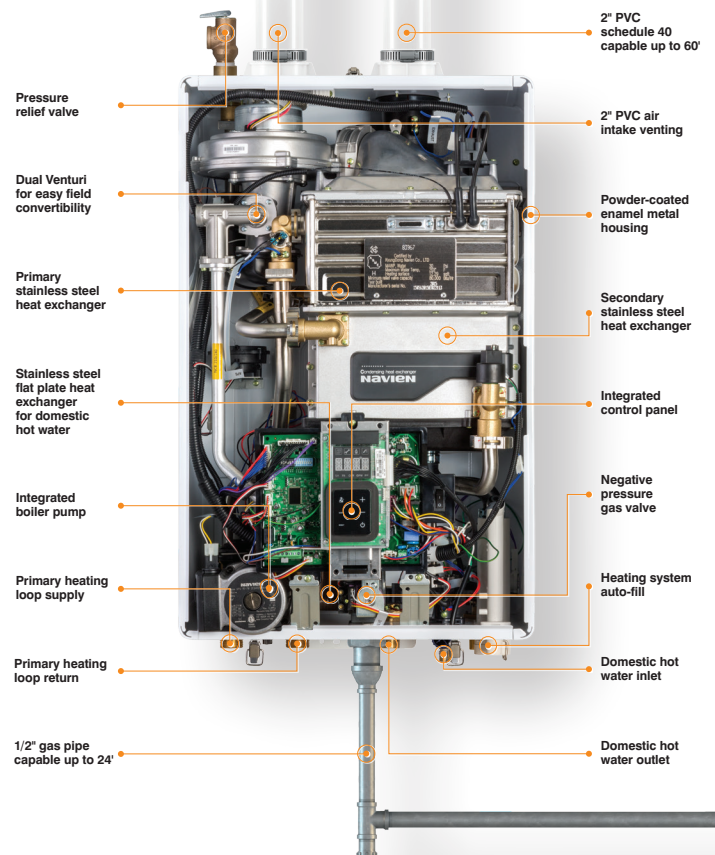
	Labor	Parts	Heat Exchanger
Residential	1 Year	5 Year*	10 Year

\*Includes DHW Flat Plate HX

### Product Features

<b>TDR 6:1 HEATING</b> <b>11:1 DHW</b>	Reduces energy waste and excessive boiler cycling and enhances temperature control for DHW
<b>AFUE 95%</b>	Recognized as the most efficient in 2015 by Energy Star
<b>2"-3" VENTING</b> <b>LONG DISTANCES</b>	2" PVC venting up to 60' 3" PVC venting up to 150'
<b>HTG AND DHW</b> <b>120k BTU/h</b> <b>199k BTU/h</b>	One unit does it all with two outputs
<b>NG or LP</b>	All Navien products are field gas convertible
<b>Most Efficient 2015</b> ENERGY STAR <a href="http://www.energystar.gov">www.energystar.gov</a>	

### NCB-E: the inside story



# Dimensions

**Connection Size**

- A Pressure Relief Valve Adapter  $\varnothing$  3/4"
- B Air Intake  $\varnothing$  2"
- C Exhaust Gas Vent  $\varnothing$  2"

**Connection Size**

- D Heating Supply Outlet  $\varnothing$  1"
- E Heating Return Inlet  $\varnothing$  1"
- F DHW Hot Water Outlet  $\varnothing$  3/4"
- G Gas Supply Inlet  $\varnothing$  3/4"
- H DHW Cold Water Inlet  $\varnothing$  3/4"
- I Condensate Outlet  $\varnothing$  1/2"
- J Auto Feeder Inlet  $\varnothing$  1/2"

# Ratings & specifications

Model Number <sup>1</sup>	Heating Input, MBH		Heating Capacity <sup>2</sup> , MBH	Net AHRI Rating, Water <sup>3</sup> , MBH	AFUE <sup>2</sup> , %	Other Specifications	
	Min	Max				Water Pressure	Water Connection Size (Supply, Return)
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		

<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.

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	3.1 GPM (11.7 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			
Power supply	Condensate outlet	1/2" NPT			
	Main supply	120V AC, 60Hz			
Materials	Maximum power consumption	200W (up to 2 amperes)			
	Casing	Cold rolled carbon steel			
Venting	Heat exchangers	Primary/secondary heat exchanger: stainless steel DHW heat exchanger: stainless steel			
	Exhaust	2" or 3" PVC, CPVC, approved polypropylene 2" or 3" special gas vent type BH (Class II, A/B/C)			
Safety devices	Intake	2" or 3" PVC, CPVC, polypropylene 2" or 3" special gas vent type BH (Class II, A/B/C)			
	Vent clearances	0" to combustibles			
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.navien.com](http://www.navien.com) to verify you have the most current information.

# Accessories

<b>NCB Series Primary Manifold Kit</b> (GFFM-MCOZUS-001)	<b>Secondary Manifold Kit</b> (GFFM-SKTZUS-001)	<b>Plumb Easy Valve Set</b> 1" Standard (30010950A) 3/4" Standard with Relief Valve (30009323A)	<b>Residential Neutralizer (1 unit)</b> (GX001322) <b>Residential Replacement Media</b> (GX001323)	<b>Light Commercial Neutralizer (up to 6 units)</b> (GX001324) <b>Light Commercial Replacement Media</b> (GX001328)	<b>PeakFlow Anti-Scale System</b> (GX001326) <b>PeakFlow Replacement Media</b> (GX001327)	<b>Cascade Cable</b> (GX0000546)	<b>Zone Pump Controller</b> 2 Zones: (PFMZ-02P-001) 3 Zones: (PFMZ-03P-001) 4 Zones: (PFMZ-04P-001) 6 Zones: (PFMZ-06P-001)	<b>Outdoor Sensor and wire</b> (30012950A)



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