

NCB-E Series Combination Boilers Technical Data Sheet

• Certified design according to ANSI Z21.13 - CSA 4.9 (latest version) standards for indoor residential applications

• Gas Input Ranges (Space Heating / DHW)

- NCB-150E 60,000 (120,000 for DHW) to 12,000 BTUh NCB-180E - 80,000 (150,000 for DHW) to 14,000 BTUh NCB-210E - 100,000 (180,000 for DHW) to 18,000 BTUh NCB-240E - 120,000 (199,900 for DHW) to 18,000 BTUh
- Domestic Hot Water Flow Rate Capacity (*based on 77°F temperature rise) NCB-150E - 2.6 GPM

NCB-180E - 3.4 GPM NCB-210E - 4.0 GPM NCB-240E - 4.5 GPM

- Dual Primary and Secondary Stainless Steel Heat Exchangers for optimum efficiency and durability
- Stainless Steel Flat Plate Heat Exchanger* for DHW (* certified to IAPMO PS 92-2013 standards)
- Domestic Hot Water Priority
- Compatible with $2^{\prime\prime}$ PVC vent up to 60 ft** and 3" PVC vent up to 150 ft** (** with no elbows)
- Backlit Front Panel allows adjustment of hot water temperatures and boiler functions including Outdoor Reset Curve settings, heating setback, Integrated Low Water Safety Control, water fill pressure, and output capacity
- Ready-Link Cascade Compatibility with Navien water heater models can be connected with **up to 15 tankless water heaters** for increased DHW output
- Compatible with Navilink. Wi-Fi Control
- Internal Circulation Pump comes included with a primary circulation pump and air vent for added value and convenience
- Low Voltage Terminal Strip contacts for thermostat or zone controller, outdoor reset, 24 VAC device relay, air handler interrupt, and LWCO
- Temperature Options two boiler setpoints: hydronic heating temperature settings range from 77°F up to 194°F and from 86°F to 140°F for DHW temperatures
- **Outdoor Reset Sensor** (included) when installed with an NCB Series model, the unit controls will sense outdoor ambient temperatures and adjust the boiler operation for maximum comfort and efficiency
- AFUE Ratings NCB-150E/-180E/-210E/-240E - 95.0% (NG/LPG)
- Compatible with Natural Gas (NG) and Propane (LPG)*** (*** requires installation of included Field Conversion Kit by a qualified gas servicer)
- Certified by CSA, ASME, NSF/ANSI 372 for Low Lead (DHW only), SCAQMD (Rule 1146.2 Type 1 - Complies with 14 ng/J or 20 ppm NOx @ 3% 02)
- CRN 2002.9YT (NCB-150E), 2003.9YT (NCB-180E), 0H6835.4 and 2004.9YT (NCB-210E), 0H6835.4 and 2005.9YT (NCB-240E)
- **10-Year** Heat Exchanger and **5-Year** Parts Warranty**** (**** see Navien Limited Residential Warranty)
- Optional accessories are available (see below)



Sleek Design - Compatible with 2" PVC Vent



INCLUDED Illuminated Front Panel with Advanced Hydronic and DHW Operation







NCB-E Series Combination Boilers Technical Data Sheet



			Combination Boiler Heating Ratings			Other	Specifications
Model	Heating Input, MBH		Heating Capacity ² ,	Net AHRI Rating, Water ³ ,	AFUE ² ,	Water	Water Connection
Number ¹	Min	Max	MBH	MBH	%	Pressure	Size (Supply, Return)
NCB-150E	12	60	56	49	95.0	12-30 psi	1 in NPT
NCB-180E	14	80	75	65	95.0		
NCB-210E	18	100	94	82	95.0		
NCB-240E	18	120	112	97	95.0		

to Propane use

haung are the same to hauna roas models converted to Propage de-Based on U.S. Department of Energy (DOE) test procedures. 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-180E	NCB-210E	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 to -0.34" WC	-0.07" WC to -0.66" WC	-0.05" WC to -0.36" WC	-0.06" WC to -1.2" WC				
Propane Gas Manifold Pressure (min-max)		-0.08" WC to -0.30" WC	-0.06" WC to -0.62" WC	-0.1" WC to -0.66" WC	-0.03" WC to -0.98" WC				
Minimum Flow Rate (DHW)		0.5 GPM (1.9 L/m)	1		1				
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							
	Main Supply	120V AC, 60Hz							
Power Supply	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, Approv 2" or 3" Special Gas Vent T							
	Intake	2" or 3" PVC, CPVC, Polypre 2" or 3" Special Gas Vent T							
	Vent Clearances	0" to Combustibles							
Safety Devices	Flame Rod, APS, Gas Valv Exhaust Temperature Hig		ion Operation Detector, Wat	er Temperature High Limit S	witch,				