

NHB Series



NHB High Efficiency Condensing Boilers

Navien innovation
available in a
space-saving
wall-hung boiler

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



THE LEADER IN CONDENSING TECHNOLOGY

Navien NHB Series condensing boilers

As the leader in condensing technology, Navien reinvented the water heating industry with the award-winning NPE tankless water heaters and the NCB-E combi-boilers. Navien's tradition of innovation continues with the NHB series high efficiency condensing boilers. All NHB boilers have Navien's advanced burner system, an AFUE of 95.0% and industry-leading turndown ratios up to 15:1. The NHB boiler is available in four sizes: 55,000 BTU/H, 80,000 BTU/H, 110,000 BTU/H and 150,000 BTU/H.

Space saving



The sleek wall-hung design uses much less space than traditional floor standing boilers.

Easy to install



1/2" gas connections (subject to local code) and 2" PVC venting help reduce installation time.

Total control



All system setup, operations and troubleshooting available at your fingertips.

TDR UP TO 15:1

Industry's largest turndown ratio allows boiler to fire at highest operational efficiencies without frequent on and off cycling.

AFUE 95.0%

AFUE 95.0% - Energy Star certified.

2" - 3" VENTING LONG DISTANCES

2" or 3" PVC, CPVC, PP and SS
(see installation manual for more details).
2" or 3" special gas vent type BH (Class III, A, B, C).

ADJUSTABLE DELTA T RANGES

Gives the installer the ability to maximize boiler performance and temperature control.

CASCADE UP TO 16 UNITS

The cascading feature for 110 and 150 models will enable 1-16 units based on demand and balance workload for longer life.

NHB CONTROL

The smart integrated control provides industry-leading options and features in the boiler operation parameters, including:

- Adjustable heat capacity
- A timed hydronic supply water boost feature
- Adjustable anti-cycle timer
- Freeze protection
- Pressure LWCO with manual reset
- Adjustable minimum burner time setting
- Adjustable turndown ratio timing
- Outdoor reset and domestic hot water priority
- Adjustable outdoor temperature reset curves
- Field gas convertible

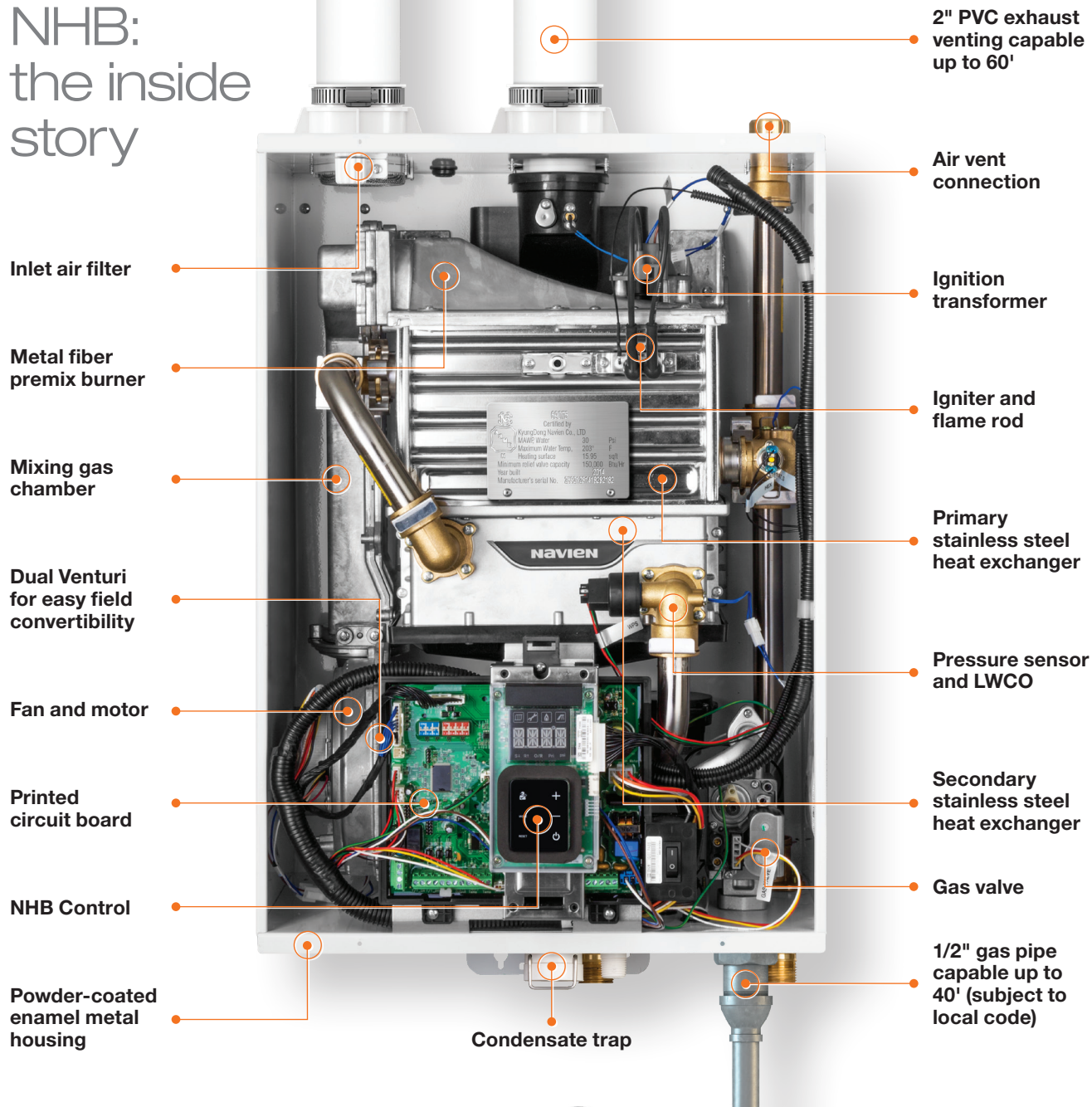
Before



After

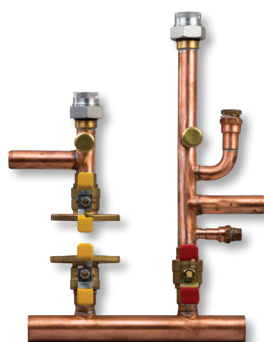


NHB: the inside story

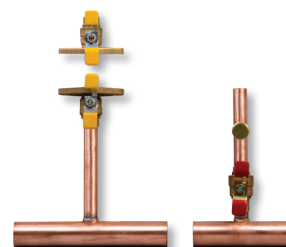


Manifold kits

Navien's manifold kits are ideal for hydronic space heating applications. With these manifolds, we have done the piping work for you. Both primary and secondary loop manifold kits are designed to work on all NHB models for fast and clean installations. All you need to add is your own appropriately sized pump.



NHB Primary Manifold Kit
GFFM-MSOZUS-001



NHB Secondary Manifold Kit
GFFM-SKTZUS-001

Common venting up to 8 units and cascade capable up to 16 units

Navien's two largest condensing boilers, NHB-110 and NHB-150, can be cascaded and common vented

With our cascading technology, when a unit gets up to 75% capacity determined by the supply and return temperatures, the next unit will enable to help meet the hydronic space heating requirements. This hydronic space heating requirement and demand ratio will continue until all units are generating the

needed hydronic space heat up to the maximum cascaded capacity. The Navien cascading system also balances out the workload of each unit for longer life. The NHB is dual certified for single and 2-pipe venting applications.



Advanced filtration for hydronic heating systems

Naviclean® magnetic boiler filter

Naviclean is designed to work with Navien NCB-H, NFC-H, NHB and NFB-H series boilers. It is best suited for heating systems with 1" to 1-1/4" copper or black iron pipes. It features a permanent magnet mounted inside the glass reinforced nylon housing.

- Powerful permanent magnet for removing higher levels of iron oxide, sludge and debris
- 360° rotation allows flexibility of installation
- Inlet and outlet ports for rapid in-line installation
- Tool-free valve connection prevents cross threading
- Large canister and full flow valves result in minimal pressure drop and unrestricted flow
- Low profile drain valve makes installation and service easier
- High performance seals provide higher protection against leaks



In minutes,
the Naviclean filter
traps the debris,
and water is clear



NHB Series boiler accessories



SmartZone+ pump controller

Zone pump controller designed to work with NHB series units allowing control from 2 to 6 zone pumps.

2 Zones: PFMZ-02P-001

3 Zones: PFMZ-03P-001

4 Zones: PFMZ-04P-001

6 Zones: PFMZ-06P-001



NaviLink™ Wi-Fi control

This add-on accessory will enable customers with smartphones and tablets to control temperatures remotely, access usage data and receive diagnostic notifications on all Navien products (NPE-A2, NPE-S2, NPN-U, NPN-E, NCB-H, NFC-H, NHB, and NFB-H).

PBCM-AS-001



NaviLink Lite Wi-Fi control

This add-on accessory will enable customers with smartphones and tablets to control temperatures remotely, access usage data and receive diagnostic notifications on all Navien products (NPE-A2, NPE-S2, NPN-U, NPN-E, NCB-H, NFC-H, NHB, and NFB-H).

PBCM-AS-002



Common vent collar kit

Required for cascade/common vent installations with NHB series units produced on or after September 15, 2016. Includes cascade cable.

30014367B

Includes cascade cable (GXXX000546), common vent collar damper and VID cable.



Plumb easy valve set, 1"

1" isolation valves without relief valve designed to work on NHB series units. Allows for easy and quick servicing of hydronic space heating systems.

30010950A



Ready-Link® rack (V4)

Base

GFFM-KDIZUS-009

Add-on

GFFM-KDIZUS-010



NaviClean® magnetic filter for boilers

This industry leading filtration device is designed to protect hydronic heating systems by capturing free floating iron oxides.

Note: for single boiler installations only.

GXXX001727



Commercial neutralizer

Designed to neutralize the condensate of up to 16 NHB series units.

GXXX002367

Replacement media for commercial neutralizer

GXXX002369



Light commercial neutralizer

Designed to neutralize the condensate of up to 6 NHB series units.

GXXX002366

Replacement media for light commercial neutralizer

GXXX002368



Residential neutralizer (V2), 1 unit

Residential condensate neutralizer for NHB series units designed to neutralize the condensate of one unit.

GXXX002212

Replacement media for residential neutralizer

GXXX001323

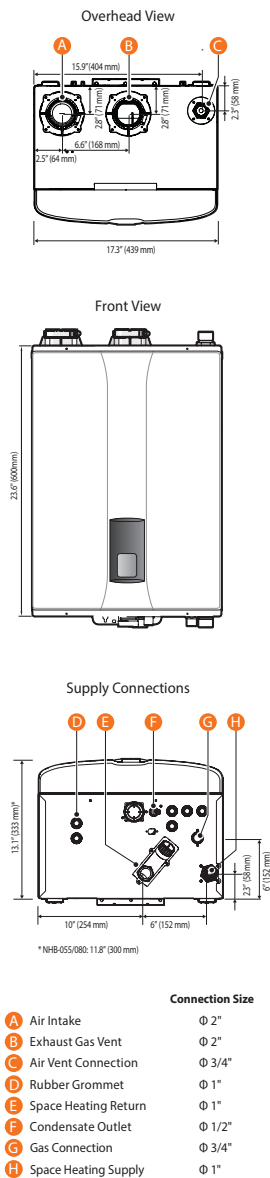


Universal temperature sensor

Designed to sense supply, return or tank temperature of hydronic heating system. Works with all NHB series boilers.

GXXX001769

Dimensions



Ratings & specifications

Navien Condensing Boiler Space Heating Ratings					
Model Number ¹	Heating Input, BTU/H		Heating Capacity ² , BTU/H	Net AHRI Rating, Water ³ , BTU/H	AFUE ² , %
	Min	Max			
NHB-55	8,000	55,000	51,000	44,000	95.0
NHB-80	8,000	80,000	74,000	64,000	95.0
NHB-110	10,000	110,000	102,000	89,000	95.0
NHB-150	10,000	150,000	138,000	120,000	95.0

¹ Ratings are the same for Natural Gas models converted to Propane use.

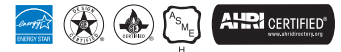
² Based on U.S. Department of Energy (DOE) test procedures.

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		NHB-55	NHB-80	NHB-110	NHB-150
Dimensions		24" (H) x 17" (W) x 12" (D)		24" (H) x 17" (W) x 13" (D)	
Weight		73 lbs (33 kg)		80 lbs (36 kg)	
Installation type		Indoor wall-hung			
Venting type		Forced draft direct vent			
Ignition		Electronic ignition			
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		-0.03" WC	-0.08" WC	-0.10" WC	-0.40" WC
Propane gas manifold pressure		-0.03" WC	-0.07" WC	-0.09" WC	-0.30" WC
Gas connection size		3/4" NPT (female)			
Power supply	Main supply	120V AC, 60Hz			
	Maximum power consumption	Less than 10A			
Materials	Casing	Cold rolled carbon steel			
	Heat exchangers	Primary and secondary heat exchangers: stainless steel			
Venting	Exhaust	2" or 3" PVC, CPVC, PP, SS (see installation manual for more details) 2" or 3" special gas vent type BH (Class III, A/B/C)			
	Intake	2" or 3" PVC, CPVC, PP, SS 2" or 3" special gas vent type BH (Class III, 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.



Input ranges

Model	Range	TDR
NHB-55	8,000–55,000 BTU/H	7:1
NHB-80	8,000–80,000 BTU/H	10:1
NHB-110	10,000–110,000 BTU/H	11:1
NHB-150	10,000–150,000 BTU/H	15:1

Warranty

Type	Residential*	Commercial
Heat Exchanger	15 year limited warranty	10 year limited warranty
Parts	5 years	3 years
Labor	1 year	1 year

*Applies to single family residential locations.

For complete details please refer to the full warranty at Navieninc.com.

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

Navien Canada, Inc. 555 Hanlan Rd., Unit 7 Vaughan, ON L4L 4R8 800-519-8794 navieninc.ca

