

NHB Series

KD **navien**®

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 turn down ratios up to 15:1. The NHB boiler is available in four sizes: 55 MBH, 80 MBH, 110 MBH and 150 MBH.

Space saving



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

Easy to install



1/2" gas connections 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 turn down ratio allows boiler to fire at highest operational efficiencies without frequent on and off cycling.

AFUE **95.0%**

Recognized as Energy Star most efficient boiler.

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 turn down ratio timing
- Outdoor reset and domestic hot water priority
- Adjustable outdoor temperature reset curves
- Field gas convertible

Before



After



NHB: the inside story

Inlet air filter

Metal fiber premix burner

Mixing gas chamber

Dual Venturi for easy field convertibility

Fan and motor

Printed circuit board

NHB Control

Powder-coated enamel metal housing

2" PVC exhaust venting capable up to 60'

Air vent connection

Ignition transformer

Igniter and flame rod

Primary stainless steel heat exchanger

Pressure sensor and LWCO

Secondary stainless steel heat exchanger

Gas valve

Condensate trap

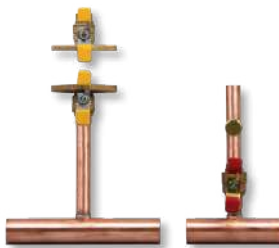
1/2" gas pipe capable up to 40'

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

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(FLAP)

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Before



After



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-E, NHB and NFB 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.

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



- 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

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-A, NPE-S, NCB-E, NFB, NHB).
PBCM-AS-001



Common vent collar kit

Required for cascade/common vent installations with NHB series units produced on or after September 15, 2016. Includes cascade cable.
30014367A
Includes cascade cable (GXXX000546) and common vent collar damper.



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

Base
GFFM-KDIZUS-001
Add-on
GFFM-KDIZUS-002



NaviClean™ magnetic filter for boilers

The 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.
GXXX001325

Replacement media for commercial neutralizer

GXXX001329



Light commercial neutralizer

Designed to neutralize the condensate of up to 6 NHB series units.
GXXX001324

Replacement media for light commercial neutralizer

GXXX001328



Residential neutralizer kit, single unit

Residential condensate neutralizer for NHB series units designed to neutralize the condensate of one unit.
GXXX001322

Replacement media for residential neutralizer

GXXX001323



System supply & return sensors

Designed to sense supply and return temperature of hydronic heating system. Works with all NHB series boilers. (Sold in pairs.)
GXXX001417



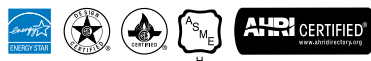
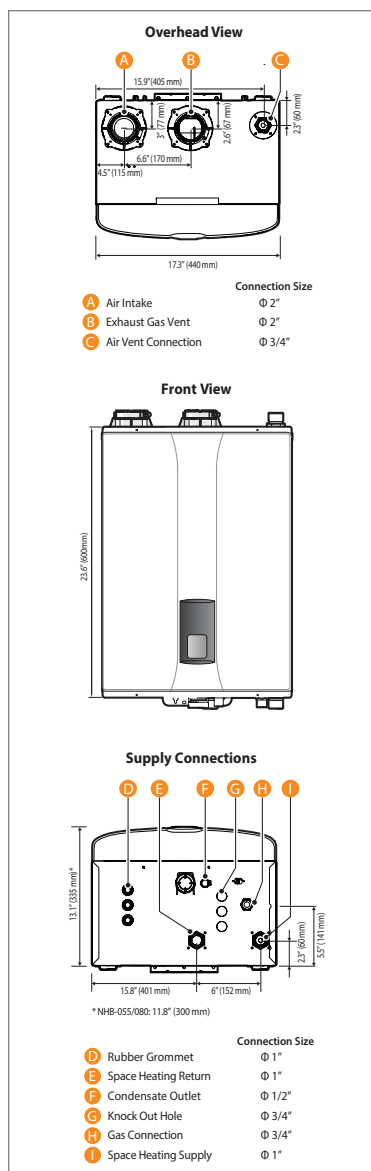
Universal temperature sensor

Designed to sense supply, return or tank temperature of hydronic heating system. Works with all NFB series boilers.
GXXX001769

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Dimensions



Ratings & specifications

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

Gas 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



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