

NORITZ Tankless Water Heater, Model GQH-20H1FFAI

20kW Gas Combination Boiler, Staged Combustion

Rated heat input
20 kW

Minimum start-up flow
2.5 L/min

Rated heat output
18 kW

Hot water flow ($\Delta T = 25^{\circ}\text{C}$)
14 L/min

Noritz 20kW staged-combustion gas wall-hung boilers are designed for residential use, combining space heating and domestic hot water in one product. Staged combustion adjusts heat output in steps instead of switching fully on and off, helping reduce energy use and keep water temperature steadier. Wi-Fi smart control is available, and temperature settings can be adjusted from 30°C to 80°C, depending on heating and hot water needs. These wall-hung boilers can be used with residential HVAC applications such as floor heating systems as well as radiator heating, and noise can be as low as 42 dB for quieter daily use.

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Benefits of Staged Combustion

- Heating temperature settings cover 30–80°C, which works well across different home heating needs
- An outdoor flue discharge design is used to improve efficiency and reduce energy use
- Hot water stays more stable during use, including multi-point demand (for example, two outlets used close together)
- Noise levels can be as low as 42 dB(A) for quieter operation
- Active anti-freeze protection supports stable operation in colder weather



Technical Specifications

Model	GQH-20H1FFAI
Rated heat input	20 kW
Rated heat output	18 kW
Minimum heating output	8.1 kW
Minimum DHW output	4.6 kW
Minimum start-up flow	2.5 L/min
Thermal efficiency	≥89%
Hot water flow ($\Delta T = 25^{\circ}\text{C}$)	14 L/min
Dimensions (H x W x D)	740 x 440 x 310 mm
Weight	32.5 kg
Water-flow servo motors	0
Staged combustion	Yes
Circulation pump	1
0.5°C temperature step control	No
Heating temperature range	30–80°C
Hot water temperature range	35–60°C
Noise level (sound power / sound pressure)	≤53 / ≤39 dB
Wi-Fi	Yes

Component Overview



Combustion Fan
A fixed-speed fan is used for stable operation and broad compatibility. It starts reliably and works well even under higher-load conditions.



Electronic Controller
The controller supports accurate temperature control and efficient operation. It also includes multiple safety protections, user-friendly controls, and built-in fault detection to make troubleshooting and maintenance easier.



Sealed Combustion Chamber
The sealed combustion chamber is designed with insulation and sound-reducing materials to help protect internal parts and reduce noise. The H-series wall-hung boilers also use additional noise-control measures, with sound levels that can be as low as 42 dB(A)*.



Noritz Water Pump
Noritz water pumps are designed for quieter operation to improve comfort in daily use. They also include smart self-protection features that help reduce the risk of faults over time.



Sectional Valve
The sectional valve supports staged combustion control, so flame output can be adjusted in steps. This makes control more stable and more precise during operation.



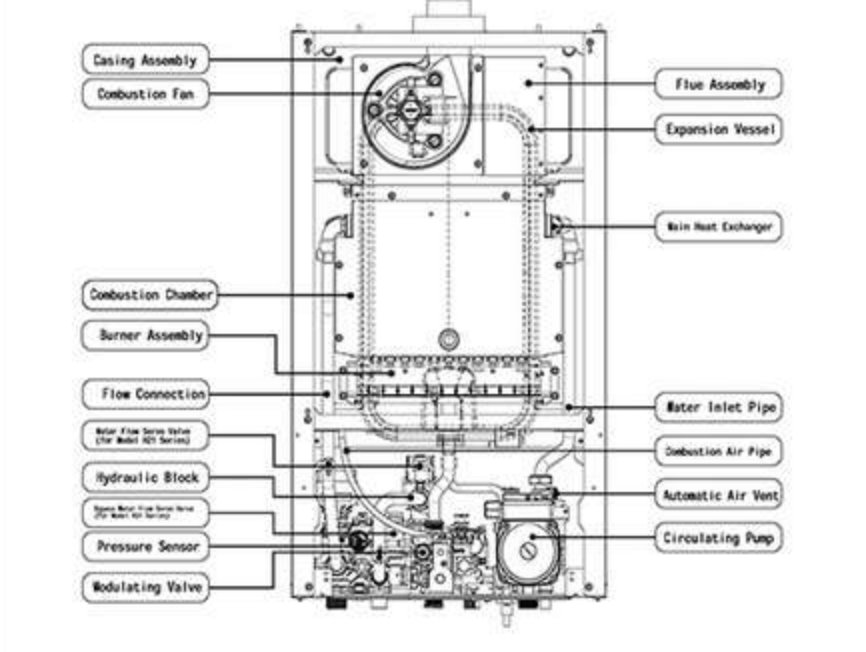
Five-Stage Heat Exchanger Design
A five-stage heat exchanger structure helps keep the overall size compact while improving heat transfer. Thanks to the larger main tubes and a longer heat-exchange path, more heat can be captured and used efficiently.



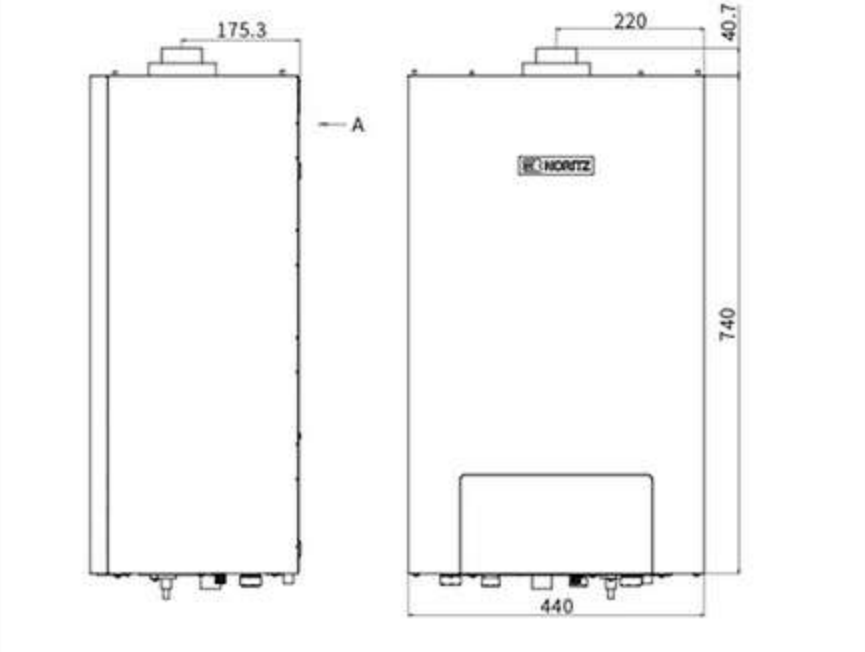
Italian SIT Proportional Valve
A proportional valve from the Italian brand SIT is used to adjust gas flow and pressure. Since the adjustment is more precise and reacts quickly, the burner can run more smoothly and waste less gas, which improves efficiency.



Expansion Tank
The expansion tank helps absorb pressure changes in the water circuit as temperatures rise and fall. By keeping pressure more stable, it protects key components and supports more consistent operation over time.



Component Overview



Installation Dimensions

Advantages



30 - 80°C temperature range



Floor heating ready in 30 minutes*



Supports several taps at once



Temperature holds within $\pm 1^{\circ}\text{C}$ *



Wide heating range



Japanese-style dry installation



Stable water temperature



Wi-Fi smart control



Lower-noise operation, with sound levels as low as 42 dB(A)



Dual anti-freeze protection for winter operation



Large touch display

- * The "Floor heating ready in 30 minutes" claim is based on Noritz lab testing. Results may vary depending on real use.
- * Test data is from Zhejiang Fangyuan Testing and Certification Group, report No. 2411305892.

Applications

- Radiator heating: flexible temperature settings (30–80°C) to match different rooms and seasons
- Shower comfort: more stable hot water, so temperature changes feel less noticeable (about $\pm 1^{\circ}\text{C}$)
- Floor heating: warms up faster for daily use (about 30 minutes in typical conditions)
- Kitchen + bathroom use: Designed for multi-point hot water use, so the kitchen and bathroom can run at the same time with less interference



NORITZ: From Japan, Serving Customers Worldwide

Headquartered in Japan, Noritz has focused on the development of heating systems and hot water technologies for more than half a century. Over the years, Noritz has built long-term partnerships in different markets by keeping the focus on three basic principles: energy saving, comfort, and stable performance. By combining strict supply chain screening with localized product adjustment, Noritz supports dealers and engineering contractors with tankless water heating solutions that remain highly competitive.

Inquiry Form

Energy-saving heating equipment continues to be developed to help reduce environmental impact risks, with the goal of supporting a comfortable warm-water lifestyle for users worldwide.



E-mail*

Name

Phone

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Company

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Other Gas Combi Boilers

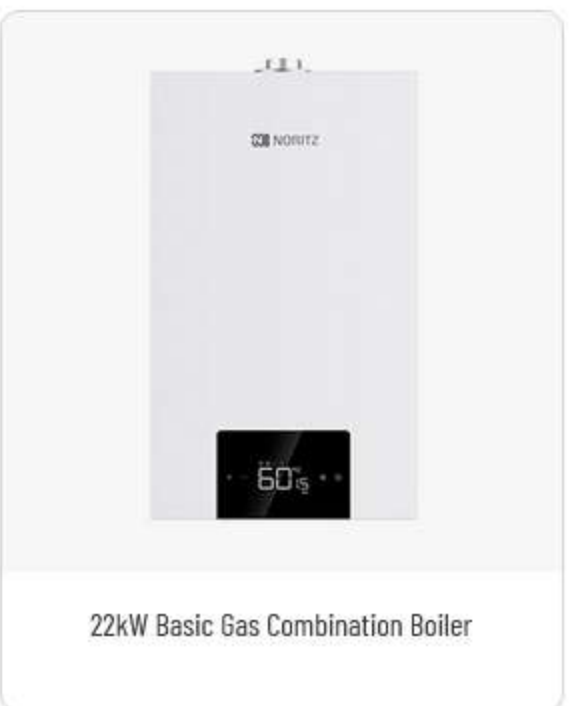
Reliable Hot Water & Space Heating



30kW Gas Combination Boiler, Dual Servo Control (Wi-Fi)



40kW Gas Combination Boiler, Dual Servo Control (Wi-Fi)



22kW Basic Gas Combination Boiler



27kW Basic Gas Combination Boiler