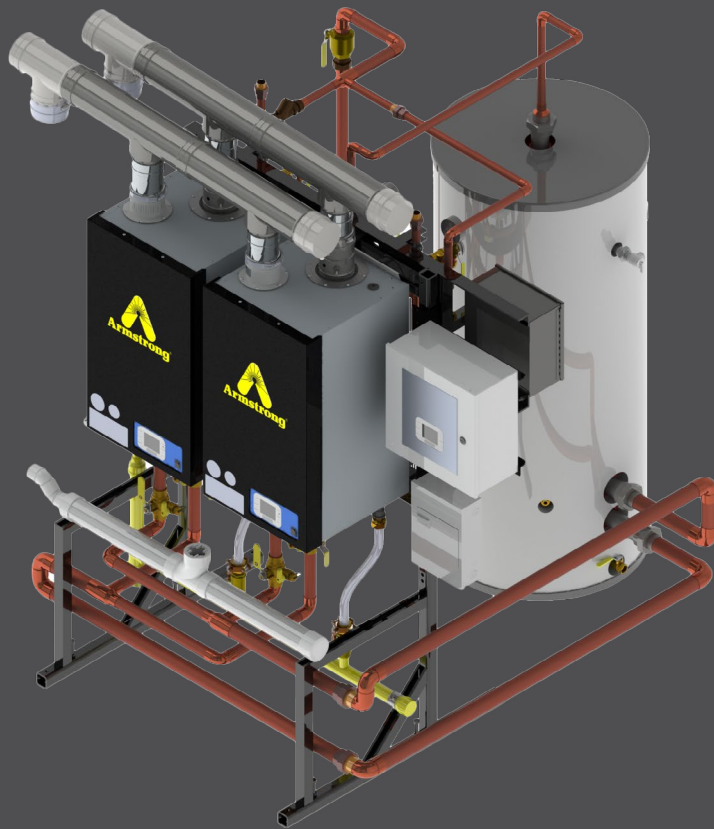




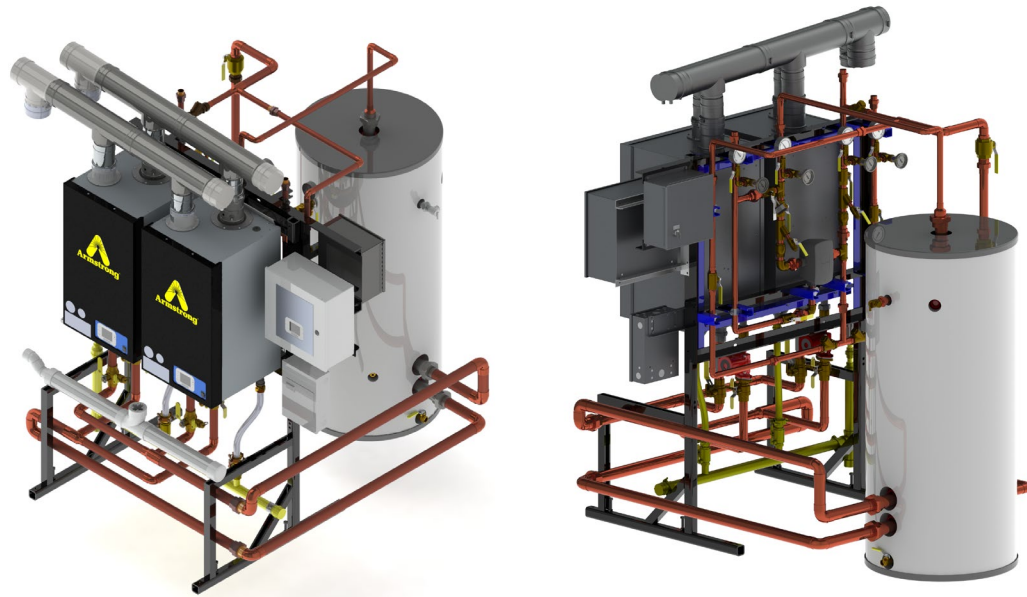
Armstrong®

ABH HOT WATER GENERATION AND CONTROL SOLUTIONS



ABH HOT WATER GENERATION AND CONTROL SOLUTIONS

Engineered for reliable, high-efficiency, hot water generation, ABH gas-fired water heater assemblies include The Brain® Digital Recirculation Valve for precision digital water temperature control and SAGE® Smart Hot Water System Monitoring and Documentation software for a comprehensive pre-piped packaged solution.



- | 299,000 BTU, 399,000 BTU, 599,000 BTU heat exchanger options
- | Modular systems with storage up to 5M BTU/3800 gallons
- | Condensing technology delivers up to 99.8% high-efficiency heat exchanger design
- | Pre-piped modular solution for turnkey installation
- | Customized for your specific requirements
- | Optimized compliance with ASHRAE188 and other Standards of Care
- | Reduced waterborne pathogen incubation risk
- | Enhanced protection against water temperature injury
- | Direct connectivity to BAS in all primary protocols

CONFIGURABLE RACK MOUNTED WATER HEATERS WITH STORAGE TANK AND DRV

GENERATION

ABH Gas Fired Water Heaters deploy an innovative, multiple pass condensing technology to deliver operating efficiencies as high as 99.8%. During operation, the energy from the latent and sensible heat from the combustion process is fully optimized by the heat exchanger.

Additionally, a unique, patented Cold Water Injection System (CWIS) within the storage tank ensures that the lowest achievable temperature cold and/or system return water enters the heat exchanger of the ABH. This design maximizes the condensing condition across a broader operational range than competitive, high efficiency technologies.

The cooled condensate which results from the process is evacuated to drain through an integral neutralization system. The residual flue gas exits the system at temperatures so low that a simplified, lower cost, PVC/CPVC vent system is appropriate under most operating conditions.

CONTROL

ABH Water Heating Systems are designed to efficiently heat and circulate the water between the heat exchanger and tank at 140°F or higher to mitigate the incubation of waterborne pathogens, while still optimizing the ABH condensing combustion process.

Integral and site-programmable, The Brain® Digital Recirculating Valve is provided pre-piped and factory set to deliver safe, reliable hot water to the building plumbing system.



CONNECTIVITY

ABH Water Heating Systems are supplied as standard with onboard intelligent control software. Each assembly is also provided with SAGE® Smart Hot Water System Monitoring and Documentation platform, with BAS interface portal for forward connection to the resident building automation system and/or the application of SAGE® information management subscription software.



Armstrong Hot Water Generation and Control Solutions are essential components of Armada™—a total, state-of-the-art hot water system engineered to deliver a superior level of safety, infection control and compliance, from mechanical room to the point of use.

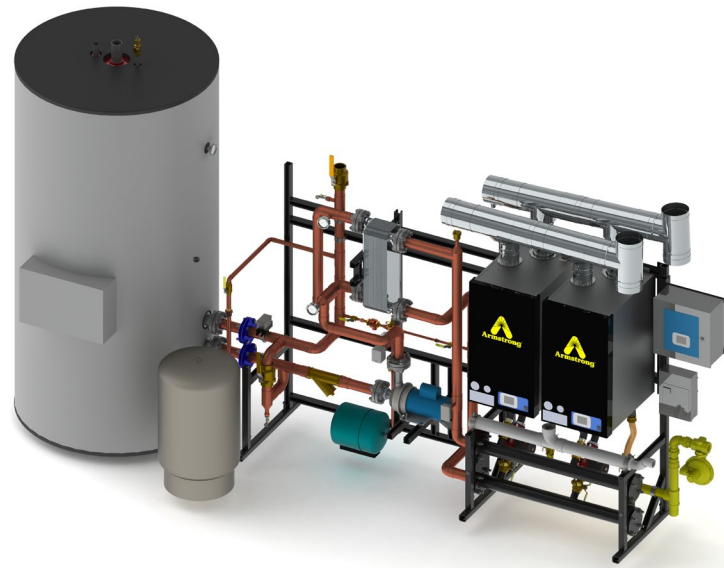
Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit armstronginternational.com for up-to-date information

CUSTOMIZED SOLUTIONS

ABH Water Heating Systems are designed, tested and applied to match the building's specific hot water requirements. Armstrong packaged Hot Water Generation and Control Solutions can be accessorized to suit, inclusive of system circulation pumps, expansion tanks, water filtration systems and more, which are factory built and configured as modular solutions to suit the site's available mechanical room footprint and site ingress.

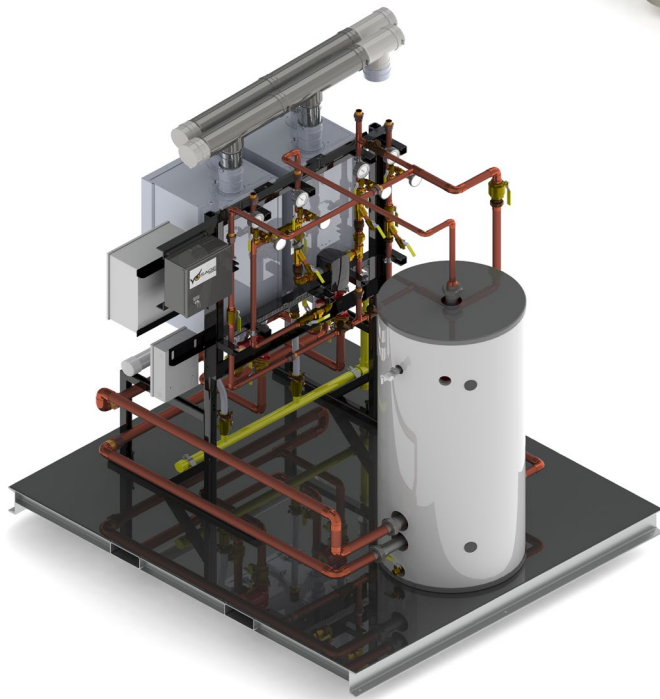
INDIRECT GENERATION AND CONTROL SYSTEMS

Custom designed and specifically applied packaged solutions that use circulating closed-loop heating for installations with a high mineral content cold water supply.



SKID MOUNTED GENERATION AND CONTROL SYSTEMS

Custom designed and specifically applied platform-mounted packaged solutions for installations with roof or remote mechanical room locations that have suitable access.



THERMAL UTILITY PODS

Standard and custom designed, and specifically applied, mobile mechanical rooms. Armstrong's Mobile Thermal Utility Pods provide a turnkey, package solution, which can be equipped with a wide variety of Armstrong Boiler and Hot Water solutions for both institutional and industrial applications.

GENERATION AND CONTROL SYSTEMS WITH INTEGRAL TANK

ABH 136,000, 299,000, 399,000 or 599,000 BTU Modular Heat Exchanger mounted to 80, 119, 160 or 200-gallon tank provided fully pre-piped with The Brain® and all requisite components installed.

Available as standard or provided as an indirect system specifically applied with circulating closed-loop heating for installations with a high mineral content cold water supply.





TANK TYPE INDIRECT WATER HEATERS

ABH High Output Indirect Water Heaters use a single or double wall copper U-Tube heat exchanger inserted horizontally in a tank. This system is provided pre-piped with The Brain® and offers flexibility to utilize an existing steam or boiler water utility to generate domestic hot water.

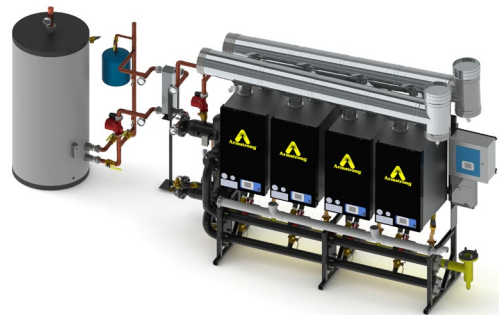
ARMSTRONG ABH BOILER SPACE HEATING SOLUTIONS

ABH Rack Mounted Modular Heat Exchangers are dual purpose. The patented, high-efficiency condensing technology is also applied in closed-loop process or building space heating applications up to 5M BTU per self-contained system.



ARMSTRONG ABH COMBINATION DOMESTIC HOT WATER AND BOILER SPACE HEATING SOLUTIONS

ABH “combo” systems blend our boiler technology with our indirect domestic water heating platform to offer a single point, pre-assembled solution. ABH combo systems are perfect for applications where mechanical room real estate is at a premium and a single source for both hot water and building heat on a reduced footprint is required.



TECHNICAL SPECIFICATIONS

- | ANSI Z21.13 and CSA 4.9, ASME H, AHRI, UL 795* and CSA 3.4* tested and certified.
- | CSD-1 compliant
- | 316L SS water tube heat exchanger
- | 5:1 burner modulation
- | Digital HDMI with LCD display
- | HOT Control™ Self-Diagnostic Microprocessor and Software
- | Gas inlet pressure transducer
- | Manual reset high limit
- | 208–240 volt split phase power supply
- | < 6.3 amps power consumption @ 240V inclusive of appliance circulator

* additional fee



MODELS ABH 299, 399, 599

Model	Heat Exchanger Capacities											
	Input		Water Heater* Output		Recovery @ 100°FΔT (55.6 °CΔT)		Recovery @ 80°FΔT (44.5 °CΔT)		Recovery @ 60°FΔT (33.3 °CΔT)		Water Flow Rate & Pressure Drop	
	BTU/hr	kW	BTU/hr	kW	GPH	LPH	GPH	LPH	GPH	LPH	GPM@FT	LPM@M
ABH 299	300,000	88	up to 291,000	up to 85	360	1363	450	1703	600	2271	16.5@22.9'	62@7M
ABH 399	399,999	117	up to 387,999	up to 114	466	1764	582	2203	776	2937	26.4@20.3'	100@6M
ABH 599	630,000	185	up to 611,100	up to 179	734	2778	917	3471	1223	4629	39.6@23.6'	150@7M

- | Data provided assumes PNG/LPG ≤ 9,000 feet
- | BTU/kW input indicated at 97% thermal efficiency with 86°F incoming supply
- | BTU/kW output indicated at 95% thermal efficiency with 140°F incoming supply



**INTELLIGENT THERMAL UTILITIES SOLUTIONS FROM A GLOBAL
LEADER IN ENERGY MANAGEMENT AND ENJOYABLE EXPERIENCES**

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