

Brigade[®]

Gas Condensing Dynamic Water Heater

A breakthrough in smart design, PVI's Brigade commercial water heater delivers reliable hot water for demanding commercial applications. Brigade's high efficiency, durability and compact footprint will help facility managers ensure their buildings have a long-lasting domestic water heater that saves on space and operating costs.

Longer Service Life

Brigade is constructed from PVI's AquaPLEX[®] duplex stainless steel alloy, which is inherently resistant to corrosion and requires no tank lining or anodes. While glass-lined tanks are prone to erosion and pre-mature failure, Brigade's AquaPLEX construction eliminates the typical three to four-year replacement cycle common for water heaters in demanding commercial applications.

Ultra-Compact Footprint

Brigade easily fits through a standard doorway and takes up only three square feet, making it ideal for both retrofit and new construction projects. A 25-gallon buffer help absorb demand spikes while maintaining outlet temperatures, and 7:1 burner turndown precisely matches BTU input to flow rates. Installation of the Brigade is simple with all connections conveniently located at the top of the unit.



Lower Operational Costs

Brigade's burner modulation and condensing design allow a thermal efficiency range of 95% to 99% with low standby losses. Touch screen electronic control with user friendly status and diagnostics help to ensure smooth operation.

Key Features and Specs

- 199 MBH
- Up to 99% thermal efficiency
- 7:1 Turn Down Ratio with spark ignition
- 15" wide x 26" deep x 76" tall
- 25 gallons buffer
- 227 gallons per hour from 40°F to 140°F
- 185°F maximum water temperature setpoint
- Constructed of AquaPLEX duplex stainless steel
- 6-year full vessel warranty

Contact your PVI sales representative to discuss how Brigade could fit into your next project.



Hot Water Solutions

PVI Industries • 3209 Galvez Avenue • Fort Worth, TX 76111
USA: T: (817) 335-9531 • Toll Free: (800) 784-8326 • PVI.com

Brigade® Gas Condensing Dynamic Water Heater

199 MBH • 25 Gal Buffer • AquaPLEX® Duplex Stainless Steel

Standard Features and Equipment

Performance

- 96% thermal efficiency from 70°F to 140°F
- 97.5% thermal efficiency from 40°F to 140°F
- Low NOx compliant at <20 ppm
- Equipped for direct combustion air connection
- Vents through PVC, CPVC or Polypropylene
- Condensate “P” trap

Pressure Vessel

- AquaPLEX construction (duplex stainless steel)
- CSA and ASME rated T&P relief valve
- Fiberglass insulation
- Durable polyethylene jacket (100% recycled material)
- Bottom drain valve

Heat Exchanger

- AquaPLEX® combustion chamber and heating surfaces, patent-pending enhanced fire tubes, single pass, 100% submerged

Burner, Operating Controls and Safeties

- Pre-mix, stainless steel burner with spark ignition
- Modulating burner with 7-to-1 turndown
- ANSI Z21.10.3 compliant gas train
- Electronic operating system with integrated ignition and operating controls
 - Programmable electronic operator with digital temperature readouts, adjustable from 80°F to 180°F
 - Plain text heater status and fault indication with fault history
 - Alarm with remote contacts
 - Visual modulation rate
 - Manual-reset temperature limiting device
 - Modbus RTU (RS-485)
 - BACnet MSTP (RS-485)²
- Electronic low water cutoff with manual reset and test switch
- Remote on/off terminals
- Louver or power venter relay and proving contacts

Warranty

- 6-year vessel and heating surfaces warranty covering waterside and condensate corrosion, leakage, production of rusty water, material defects and workmanship (PV8696)¹
- First Year Service Policy (PV551)¹
Startup form required

¹See complete warranty and service policy for full details

²Conversion to BACnet IP requires field supplied and field installed router or gateway.

Codes and Standards

- Listed in U.S. Department of Energy's Compliance Certification Database
- Intertek / ETL Listed Mark
 - ANSI Z21.10.3 - CSA 4.3
 - NSF/ANSI 372
 - NSF 5
 - PVC, CPVC or Centrotherm InnoFlue SW Polypropylene Category IV vent material
 - Zero-clearance and combustible floor installation
- Complies with ASHRAE 90.1
- Complies with SCAQMD Rule 1146.2 for ultra-low-NOx emissions
- ENERGY STAR® certified

Optional Equipment

- Condensate Neutralization System (PN 150868)
- Pigtail Kit for 120V plug-in power cord, 14/3 AWG, 12 ft. length (PN 122042)
- Concentric Vent Kit
 - (PN# 124574 for 3" PVC), (PN# 127319 for 3" CPVC)
- Installation Kit, includes ball valves, unions, pipe nipples, y-strainer and check valve for hot-cold connections and building return (PN 151033)
- Tie Down Kit (PN 155151)



Intertek



Intertek



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A WATTS Brand

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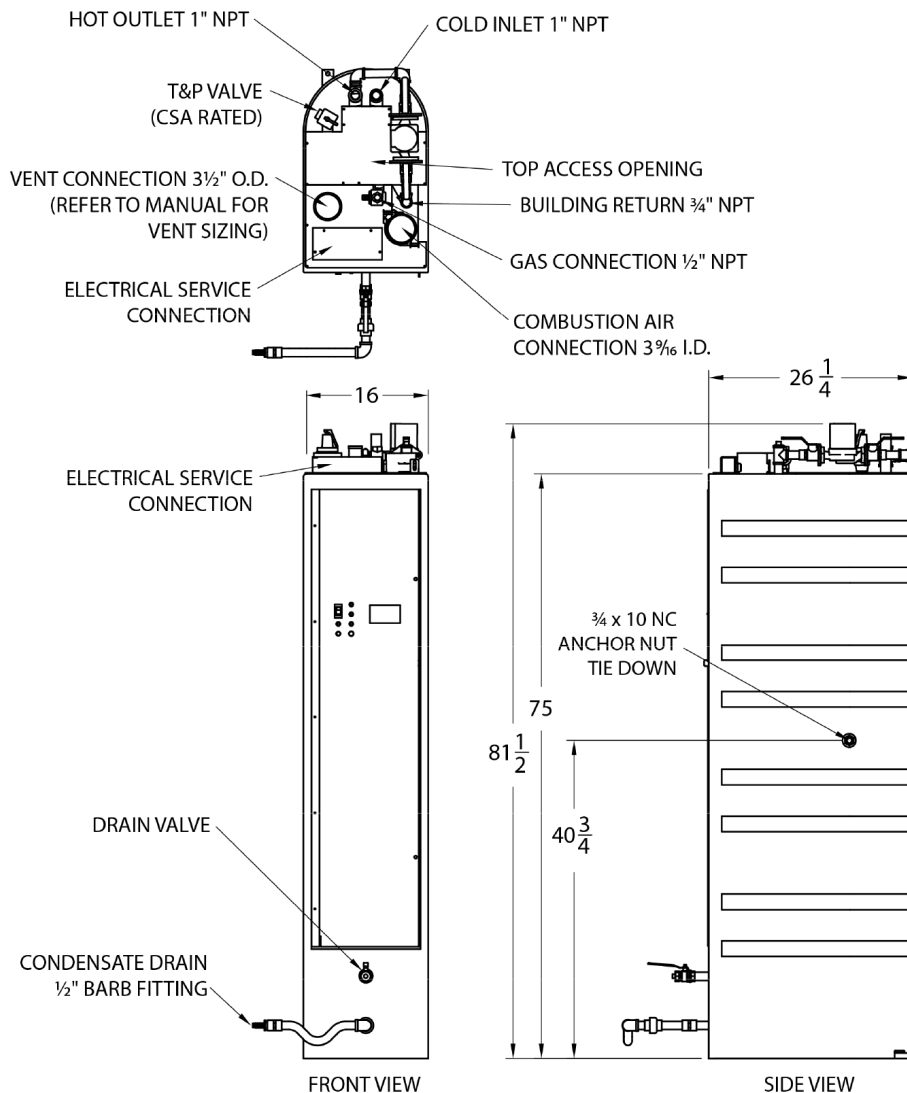
Technical Support • (800) 433-5654 • Mon-Fri, 8 am - 5 pm CST/CDT

Brigade® Gas Condensing Dynamic Water Heater

199 MBH • 25 Gal Buffer • AquaPLEX® Duplex Stainless Steel

Model ▼	Input (BTU)	Recovery (GPH) (Thermal Efficiency)		Gas Connection (NPT)*	Vent Diameter*	Operating Weight (lbs)
		70°F to 140°F ①	40°F to 140°F ②			
20 L 25-RGC	199,000	329 (96%)	233 (97.5%)	1/2	3" @ 100 eq. ft.	555

① Recoveries and thermal efficiency based upon DOE 10 CFR 431 testing per ANSI Z21.10.3 @ 70°F to 140°F.
 ② Recoveries and thermal efficiency based upon 40°F entering water temperature.
 Dimensions are in inches unless otherwise indicated.
 For standard and optional equipment, refer to form PV 8693.
 Empty weight is 348 pounds and shipping weight is 440 pounds.



Standard Electrical Service
120VAC, 1Ø, 60 Hz, 5 amps.
Venting
Use a Category IV PVC, CPVC or ETL, UL, ULC or CSA listed stainless steel or Centrotherm InnoFlue SW Polypropylene vent, minimum vent length 5 eq. feet. Do not size vent based only upon connection diameter at the appliance. Refer to installation manual for sizing requirements.
Inlet Combustion Air Duct
Up to 100 eq. ft. using 3" PVC or galvanized vent pipe. Longer lengths are ETL listed through larger diameter pipe. Refer to installation manual.
Gas Pressure - Natural
Minimum inlet flow pressure 3.5" W.C. Maximum static pressure 14.0" W.C. For LP gas, refer to installation manual.
Minimum Clearance from Combustibles
Zero (0") clearance from sides and rear, and 8" from top. 3" from front of unit for closet installation. Can be installed directly on a combustible floor.
Recommended Service Clearances
18" from all sides, top and front. Check local and national codes for additional clearance requirements.
Emissions
< 20 ppm NOx

*Do not size the entire length of gas pipe or vent based only upon connection size at the appliance. Refer to the installation manual for proper sizing.

PVI reserves the right to change the design and specification without notice.



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