

Technical Data Sheet

Conquest[®] 400-1200

Water Heater

Conquest is a compact, high-efficiency, condensing, firetube water heater that combines an advanced fuel-saving design with extended product life.

It features a submerged combustion chamber and a heat exchanger with a dimpled array of straight firetubes fabricated entirely from durable, corrosion resistant, AquaPLEX[®] duplex stainless-steel alloy. Built from the best material, Conquest provides superior payback with 3-5 times the warranty of competitors.

Combustion gases are counter-flow to the direction of the potable water enabling the coolest flue gases to contact the coldest water and raising low-fire efficiency to 99%.

The Conquest provides more BTUs in a smaller space and can be installed through a 36-inch doorway with minimal floor space requirements.

Features

- Seamless modulation reduces cycling and improves efficiency up to 99% during low load.
- Less than 20 ppm NOx.
- Touch-screen BACnet embedded operating controls with plain text status and fault diagnostics.
- Straight fire-tube design.
- 15-year tank and heat exchanger corrosion warranty (8 years full, 7 years pro-rated).



Conquest® Indoor Model

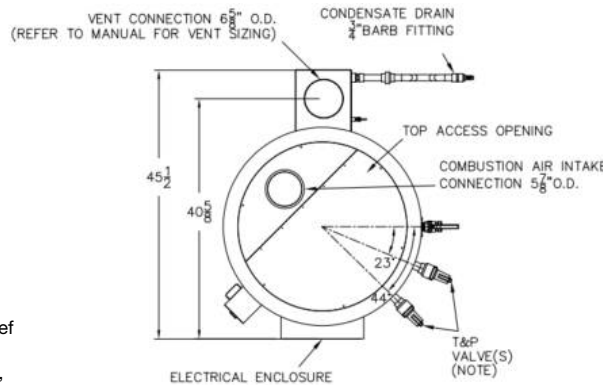
Performance

| Model ▼ | Input (BTU) | Recovery (GPH) (Thermal Efficiency) | | Vent Diameter (ETL listed for longer vents with larger dia.)** | Operating Weight (lbs) | Empty Weight (lbs.) | Shipping Weight (lbs.) | Volume (gal) | |
|---------|-------------|--|--------------------|---|------------------------|---------------------|------------------------|--------------|-------|
| | | 70°F to 140°F ① | 40°F to 140°F ② | | | | | | |
| CQT400 | 399,000 | 674 (99%) | 472 (99%) | 6" @ 200 eq. ft. | 1,662 | 828 | 1,028 | 115.6 | |
| CQT500 | 500,000 | 840 (98%) | 588 (98%) | | 1,744 | 910 | 1,110 | 114.7 | |
| CQT600 | 600,000 | 1,009 (98%) | 707 (98%) | | 6" @ 250 eq. ft. | 1,825 | 991 | 1,191 | 109.6 |
| CQT700 | 700,000 | 1,178 (98%) | 824 (98%) | 6" @ 150 eq. ft. | | 1,907 | 1,073 | 1,273 | 104.5 |
| CQT800 | 800,000 | 1,347 (98%) | 943 (98%) | | | 6" @ 100 eq. ft. | 1,988 | 1,154 | 1,354 |
| CQT900 | 900,000 | 1,516 (98%) | 1,061 (98%) | 6" @ 150 eq. ft. | 1,907 | | 1,073 | 1,273 | 104.5 |
| CQT1000 | 999,000 | 1,684 (98%) | 1,179 (98%) | | 6" @ 100 eq. ft. | | 1,988 | 1,154 | 1,354 |
| CQT1100 | 1,100,000 | 1,854 (98%) | 1,298 (98%) | 1,988 | | | 1,154 | 1,354 | 99.4 |
| CQT1200 | 1,200,000 | 2,025 (98%) | 1,418 (98%) | 1,988 | 1,154 | 1,354 | 99.4 | | |

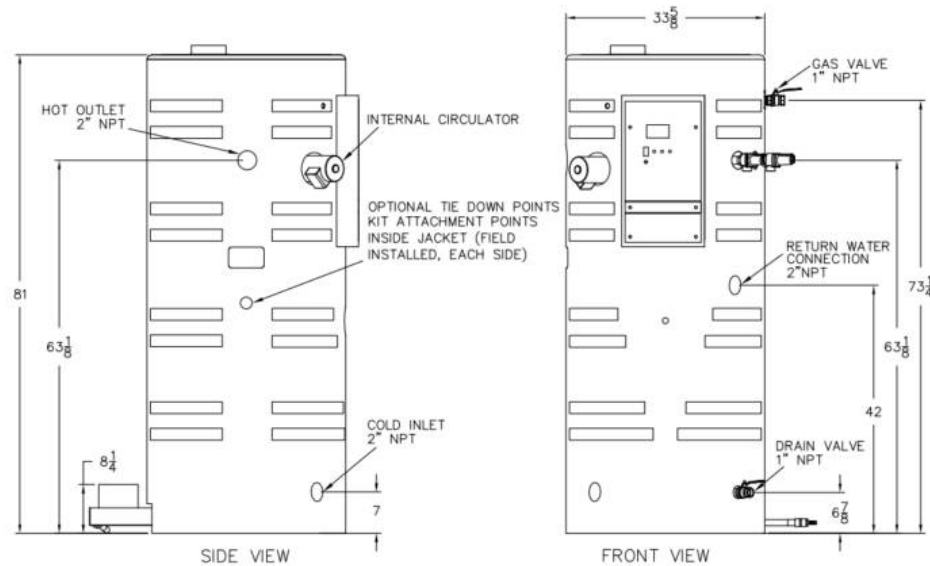
- ① Recoveries and thermal efficiency based upon DOE 10 CFR 431 testing per ANSI Z21.10.3 @ 70°F to 140°F
- ② Recoveries and thermal efficiency based upon 40°F entering water temperature
Dimensions are in inches unless otherwise indicated

Empty weight is 1154 lbs and shipping weight is 1354 lbs (all models)

Dimensions In inches



Note: The standard temperature and relief valve meet ASME/CSA Ratings. Models up to 600 MBH will have one relief valve, models 700 MBH and above will have two.



| |
|---|
| Standard Electrical Service |
| 120VAC, 1Ø, 60 Hz. All models < 12 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 is 5 eq. feet. Maximum vent length varies by model number and vent diameter. |
| Inlet Combustion Air Duct |
| Use PVC or galvanized pipe. 150 eq. ft. using 6" pipe. Longer lengths are ETL listed with larger diameters, 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 clearance from sides and rear, 24" from front, 15" from top. Can be installed directly on a combustible floor. |
| Recommended Service Clearances |
| 18" from all sides. Check local and national codes for additional clearance requirements. |
| Emissions |
| All models < 20 ppm NOx |

**Do not size vent and gas line based only upon connection diameter at the appliance. Refer to installation manual for sizing requirements.

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

Conquest® Outdoor Model

Performance

| Model ▼ | Input (BTU) | Recovery (GPH) (Thermal Efficiency) | | Vent Diameter (ETL listed for longer vents with larger dia.)** | Operating Weight (lbs) | Empty Weight (lbs.) | Shipping Weight (lbs.) | Volume (gal) | |
|---------|-------------|--|--------------------|---|------------------------|---------------------|------------------------|--------------|-------|
| | | 70°F to 140°F ① | 40°F to 140°F ② | | | | | | |
| CQT400 | 399,000 | 674 (99%) | 472 (99%) | 6" @ 200 eq. ft. | 1,662 | 828 | 1,028 | 115.6 | |
| CQT500 | 500,000 | 840 (98%) | 588 (98%) | | 1,744 | 910 | 1,110 | 114.7 | |
| CQT600 | 600,000 | 1,009 (98%) | 707 (98%) | | 6" @ 250 eq. ft. | 1,825 | 991 | 1,191 | 109.6 |
| CQT700 | 700,000 | 1,178 (98%) | 824 (98%) | 6" @ 150 eq. ft. | | 1,907 | 1,073 | 1,273 | 104.5 |
| CQT800 | 800,000 | 1,347 (98%) | 943 (98%) | | | 6" @ 100 eq. ft. | 1,988 | 1,154 | 1,354 |
| CQT900 | 900,000 | 1,516 (98%) | 1,061 (98%) | 6" @ 150 eq. ft. | 1,907 | | 1,073 | 1,273 | 104.5 |
| CQT1000 | 999,000 | 1,684 (98%) | 1,179 (98%) | | 6" @ 100 eq. ft. | | 1,988 | 1,154 | 1,354 |
| CQT1100 | 1,100,000 | 1,854 (98%) | 1,298 (98%) | 1,988 | | | 1,154 | 1,354 | 99.4 |
| CQT1200 | 1,200,000 | 2,025 (98%) | 1,418 (98%) | 1,988 | 1,154 | 1,354 | 99.4 | | |

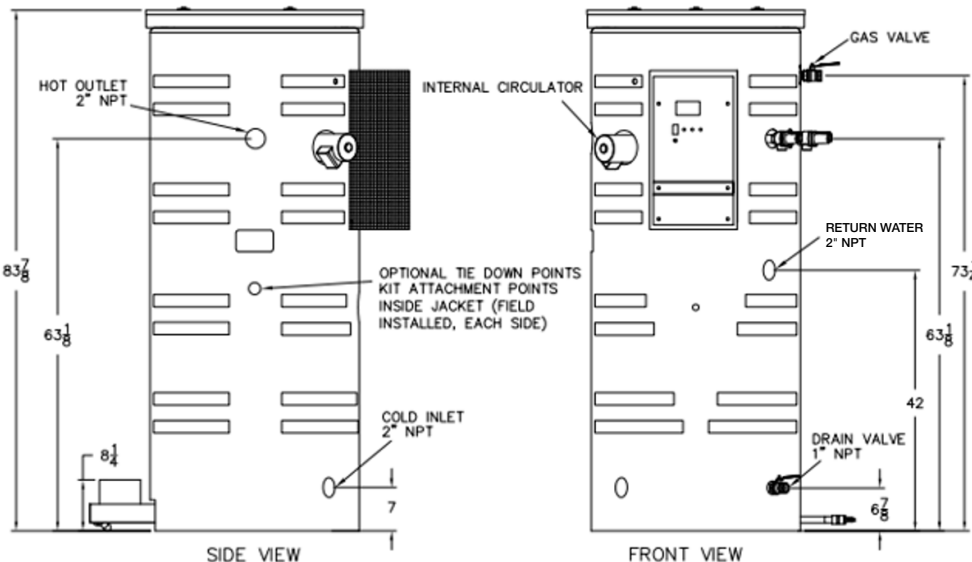
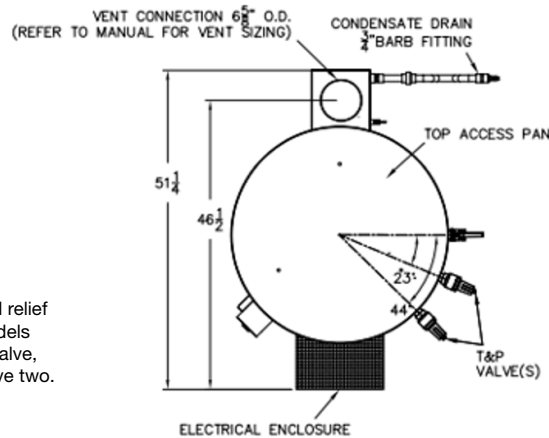
① Recoveries and thermal efficiency based upon DOE 10 CFR 431 testing per ANSI Z21.10.3 @ 70°F to 140°F

② Recoveries and thermal efficiency based upon 40°F entering water temperature
Dimensions are in inches unless otherwise indicated

Empty weight is 1154 lbs and shipping weight is 1354 lbs (all models)

Dimensions In inches

Note: The standard temperature and relief valve meet ASME/CSA Ratings. Models up to 600 MBH will have one relief valve, models 700 MBH and above will have two.



Standard Electrical Service

120VAC, 1Ø, 60 Hz. All models < 12 amps.

Venting

Use a Category IV, 6" PVC, CPVC or ETL, UL, ULC or CSA listed stainless steel or Centrotherm InnoFlue SW Polypropylene vent. Recommended vent termination for outdoor installation is a 5' vertical rise connected directly to the vent connection, followed by an elbow pointed away from the heater, then a 45° elbow pointed down.

Inlet Combustion Air Intake

Combustion air enters around the perimeter of the Outdoor Air Intake and Cover. Air filtration media is located under the top cover.

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 clearance from sides and rear, 24" from front, 15" from top. Can be installed directly on a combustible floor.

Recommended Service Clearances

18" from all sides. Check local and national codes for additional clearance requirements.

Emissions

All models < 20 ppm NOx

**Do not size vent and gas line based only upon connection diameter at the appliance. Refer to installation manual for sizing requirements.

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Standard and Optional Equipment

Standard Features and Equipment

Performance

- Up to 98% thermal efficiency at low fire from 40°F to 140°F
- Increased efficiency by 2 – 3% from model with helically coiled fire tubes depending on input
- Low NOx emissions < 20 ppm NOx, SCAQMD compliant

Pressure Vessel

- AquaPLEX (duplex stainless steel) tank
- Storage tank ASME stamped and National Board Registered for 150 psi MAWP
- The standard temperature and relief valve meet ASME/CSA ratings. Models up to 600 MBH will have one relief valve, and models 700 MBH and above will have two.
- Fiberglass insulation
- Durable polyethylene jacket
- Bottom drain valve

Heat Exchanger

- AquaPLEX combustion chamber with 100% submerged single pass straight firetubes

Burner, Operating Controls and Safeties

- Pre-mix surface burner with proportional air/gas control
- Electronic operating system with integrated ignition and operating controls
- Programmable electronic operator with digital temperature readouts, adjustable from 80°F to 180°F (consult factory for applications with $\geq 180^\circ\text{F}$ delivered water)
- Plain text heater status and fault indication with fault history
- Alarm with remote contacts
- Visual modulation rate
- Manual-reset high temperature limit
- Modbus RTU (RS-485)
- BACnet MSTP (RS-485)²
- Electronic low-water cutoff with manual reset and test switch
- CSD-1 compliant controls on 399 MBH model (Optional on 500 to 1200 MBH models)
- Remote on/off terminals
- Seamless modulation
- Louver or power venter relay and proving contacts

Warranty

- 15-year tank and heating surfaces warranty covering typical condensate corrosion, thermal stress failure, mechanical defects or workmanship (PV8869)¹
- First Year Limited-Service Policy (PV8869)¹

Codes and Standards

- DOE Compliance Certification Database
- Intertek / ETL listed
- Certified to ANSI Z21.10.3 / CSA 4.3 standards
- PVC, CPVC or Centrotherm InnoFlue SW Polypropylene
- Category IV vent material
- Zero-clearance and combustible floor installation
- NSF-372 lead-free
- EPA/DOE qualified
- ASHRAE 90.1 compliant

Miscellaneous

- Condensate “P” trap (provided for field installation)

Optional Equipment

- CSD-1 control (adds low gas pressure switch)
- The unit comes standard with a gas valve equipped with a Zero Governor, which functions as the high gas pressure switch
- Propane operation (consult factory)
- Factory-authorized startup
- Condensate neutralization system (PN: 167495)
- Air filtration box kit (PN: 164624)
- Installation kit (PN: 143404)
- DigiTemp® digital mixing valve (consult factory)
- AquaSolve scale control system (consult factory)
- Parts kit (consult representative)
- Vent termination cap for exhaust vent
- 6-inch (PN 58850)

¹See complete warranty and service policy for full details

²Protocol conversion to BACnet IP or LonWorks requires field supplied and field installed router or gateway.

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