Technical Data Sheet

Conquest® 1100-1200

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 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 1100 and 1200 MBH Conquest provides more BTUs in a smaller space and can be installed through a 36-inch doorway with minimal floor space requirements.

Features

- 1100 and 1200 MBH
- For 1100 MBH model CQT1100
  - 96% thermal efficiency from 40°F to 140°F
  - 96% thermal efficiency from 70°F to 140°F
- For 1200 MBH model CQT1200
  - 97% thermal efficiency from 40°F to 140°F
  - 97% thermal efficiency from 70°F to 140°F
- Seamless modulation reduces cycling and improves efficiency up to 99% during low load
- Less than 20 ppm NOx
- Touch-screen operating control with plain text status and fault diagnostics, BACnet embedded
- 15-year tank and heat exchanger corrosion warranty (8 years full, 7 years pro-rated)
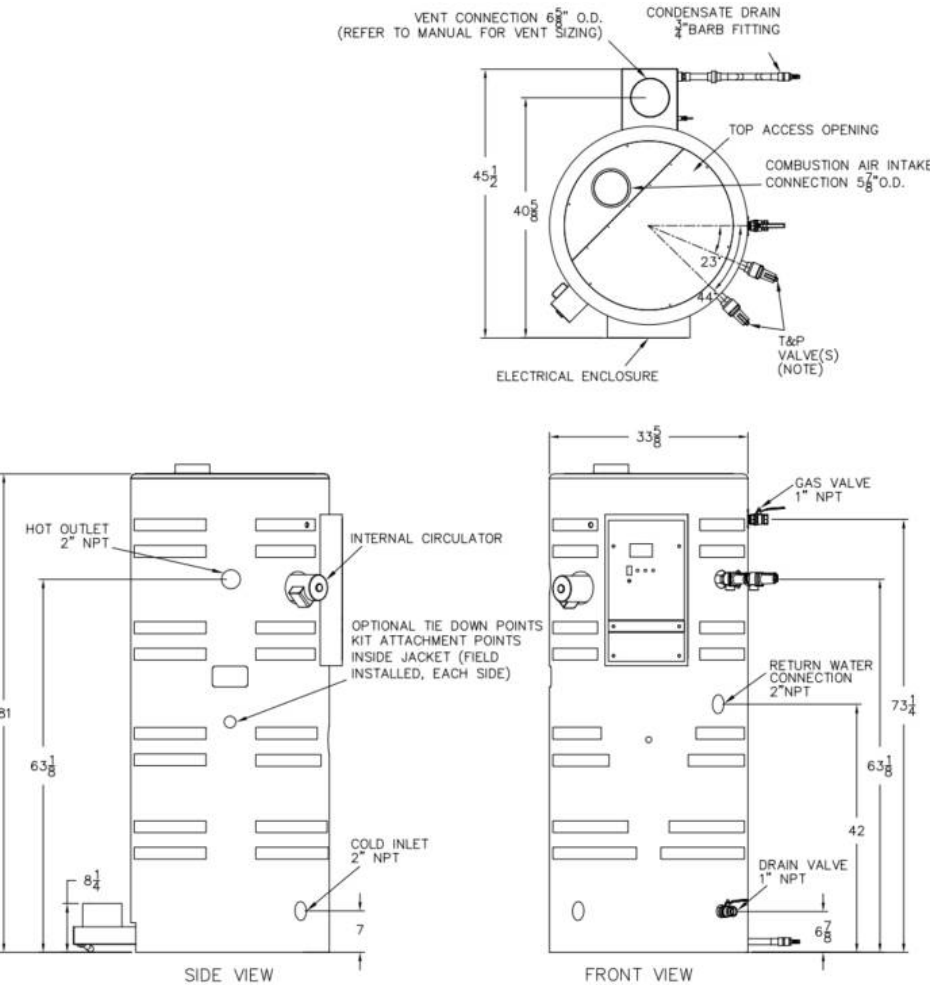
Conquest® Indoor Model

Performance

Model ▼	Input (BTU)	Modulating	Recovery (GPH) (Thermal Efficiency)		Gas Connection (NPT)**	Vent Diameter (ETL listed for longer vents with larger dia.)**	Volume (gal)	Operating Weight (lbs)
			70°F to 140°F ①	40°F to 140°F ②				
CQT1100	1,100,000	Yes	1829 (96%)	1280 (96%)	1	6" @ 100 eq. ft.	100	1988
CQT1200	1,200,000	Yes	2016 (97%)	1411 (97%)	1	6" @ 100 eq. ft.	100	

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

VENT CONNECTION 6⅝" O.D.
(REFER TO MANUAL FOR VENT SIZING)

CONDENSATE DRAIN ¾"BARB FITTING

TOP ACCESS OPENING

COMBUSTION AIR INTAKE CONNECTION 5⅞"O.D.

45½
40⅝
23°
44°

T&P VALVE(S) (NOTE)

ELECTRICAL ENCLOSURE

HOT OUTLET 2" NPT

INTERNAL CIRCULATOR

OPTIONAL TIE DOWN POINTS KIT ATTACHMENT POINTS INSIDE JACKET (FIELD INSTALLED, EACH SIDE)

COLD INLET 2" NPT

81
63⅛
8¼
7

SIDE VIEW

33⅝

GAS VALVE 1" NPT

RETURN WATER CONNECTION 2"NPT

DRAIN VALVE 1" NPT

73¼
63⅛
42
6⅞

FRONT VIEW

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.

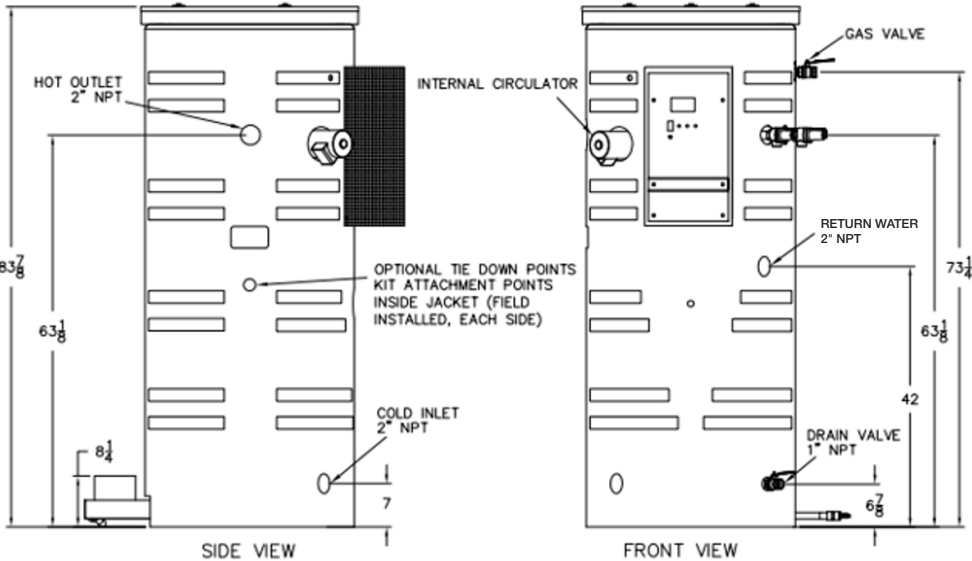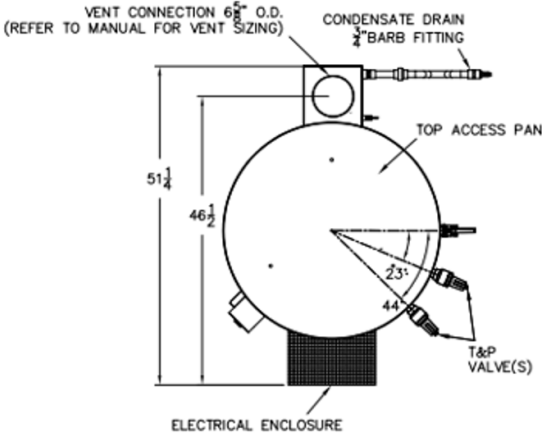PVI reserves the right to change the design and specification without notice.

Note: The standard product offering will come with one T&P valve. For the CSA valve option, a second relief valve will be provided as shown.

Conquest® Outdoor Model

Performance

Model ▼	Input (BTU)	Modulating	Recovery (GPH) (Thermal Efficiency)		Gas Connection (NPT)**	Vent Diameter (ETL listed for longer vents with larger dia.)**	Volume (gal)	Operating Weight (lbs)
			70°F to 140°F ①	40°F to 140°F ②				
CQT1100	1,100,000	Yes	1829 (96%)	1280 (96%)	1	6" @ 100 eq. ft.	100	1988
CQT1200	1,200,000	Yes	2016 (97%)	1411 (97%)	1	6" @ 100 eq. ft.	100	

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

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 connec- tion, 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 require-ments.

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Standard and Optional Equipment

Standard Features and Equipment

Performance
- For 1100 MBH model CQT1100, 96% thermal efficiency (per 10 CFR 431: ANSI Z21.10.3 @ 70°F to 140°F)
- For 1200 MBH model CQT1200, 97% thermal efficiency (per 10 CFR 431: ANSI Z21.10.3 @ 70°F to 140°F)
- Up to 99% thermal efficiency at low fire from 40°F to 140°F
- Low NOx emissions < 20 ppm NOx, SCAQMD compliant

Pressure Vessel
- AquaPLEX tank (duplex stainless steel)
- Storage tank ASME stamped and National Board Registered for 150 psi MAWP
- 1100-1200 MBH models: standard valve meets ASME relief rating; if CSA rating is needed, add an additional relief valve
- Fiberglass insulation
- Durable polyethylene jacket
- Bottom drain valve

Heat Exchanger
- AquaPLEX combustion chamber and fire tubes, helically-coiled, single pass, 100% submerged

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 ≥180°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 waterside and condensate corrosion, leakage, production of rusty water, material defects and workmanship (PV903A)[1]
- First Year Limited Service Policy (PV551)[1]

Codes and Standards
- DOE Compliance Certification Database
- Intertek / ETL listed
  - ANSI Z21.10.3 / CSA 4.3
  - 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 150773)
- 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)

[1]See complete warranty and service policy for full details

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

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