



**Product Submittal for Delta Limited®- Type WH  
Water Heater  
Models 399B-899B**

Date: \_\_\_\_\_ Job: \_\_\_\_\_ Location: \_\_\_\_\_  
 Equipment Tags: \_\_\_\_\_ Engineer: \_\_\_\_\_ Contractor: \_\_\_\_\_  
 Model: \_\_\_\_\_ Notes: \_\_\_\_\_  
 Prepared by: \_\_\_\_\_ Indoor  Outdoor  Gas Type: Natural Gas  Propane

- Efficiency up to: 85%
- Maximum Setpoint: 150°F (66°C)
- Maximum outlet water temperature: 200°F (93°C)
- Minimum non-condensing inlet temperature: 105°F (41°C)
- Thermal shock proof heat exchanger
- Limited 20-year thermal shock warranty
- Limited 10-year cupronickel heat exchanger warranty
- Limited 5-year copper heat exchanger warranty
- PolyTuf powder-coated cabinet
- No combustible floor shield required
- Fan-assisted
- Patented burner security blanket



\*Our product has been certified by a third-party to meet SC-AQMD Rule 1146.2 standards.

\*\* Our products undergo a rigorous verification process that validates the product is ready to leave the factory and is prepared for installation and start-up.



**STANDARD PRODUCT**

NOTE: Standard features listed below containing a [o] hollow bullet next to their description, can be modified for configured made-to-order product.

TYPE	MODEL SIZE	ORDER NUMBER
WH3	399B	<input type="checkbox"/> 019011
	499B	<input type="checkbox"/> 019012
	649B	<input type="checkbox"/> 019013
	749B	<input type="checkbox"/> 019014
	899B	<input type="checkbox"/> 019015

**STANDARD STOCK FEATURES:**

**Heat Exchanger:**

- Copper fin tube heat exchanger
- Glass lined cast iron headers
- ASME HLW-stamped; 160 PSIG MAWP
- National Board registered
- ASME Steel tube sheet
- Silicone high-temp. O-rings
- PRV (125 psi)
- T&P gauge
- Left-hand water connections

**Gas Type:**

- Natural gas

**Power:**

- 120V, 60Hz, 1Ø, Power Supply

**Control:**

- 100% Shutoff/lockout
- 120/24V 60Hz Transformer
- 3-try Ignition module
- Remote flame sensor
- I-5 High limit, manual-reset, 200°F max.
- On/Off power switch
- Manual shut-off, front-mounted switch
- Flow switch
- Blocked vent pressure switch
- Combustion air proving switch
- Pump time delay relay, 5-minute, fixed
- Status display lights

**Gas Train:**

- Manual gas shutoff valve(s)
- Combination valves
- 2-Stage firing mode
- Design Certified –ANSI Z21.10.3/CSA 4.3

**Burner:**

- Hot surface ignition (HSI)
- Ultra-Low NOx: less than 20 PPM

**Construction:**

- Indoor/outdoor construction
- Front controls enclosed
- CSA low-lead certified (≤ 0.25% Lead)

**Venting:**

- Top, outdoor

**Pump:**

- Medium water pump



**CONFIGURED PRODUCT (MADE-TO-ORDER)**

NOTE: Features containing a [•] solid bullet in the “Standard Product” section, are also standard on the “Made-to-Order” configurations. Options selected here will be factory installed on the product.

**Heat Exchanger:**

- Header:
  - Glass-lined cast iron (standard)
  - A-1 Bronze
- Water Connections:
  - Left (standard)
  - A-6 Right
- ASME pressure relief valve options
  - 125 PSIG (standard)
  - 150 PSIG

**Other Options:**

- E-5 Alarm with 4” bell
- E-15 Alarm with buzzer
- F-10 Low water cut-off (remote probe)
- I-1 Adjustable Auto Limit / Adjustable Manual Limit - 240/240°F
- I-5 High limit, adj. manual-reset, 200°F max.
- I-6 Adjustable Auto Limit / Adjustable Manual Limit - 180/200°F
- I-7 Adjustable Auto Limit / Adjustable Manual Limit - 200/240°F
- I-12 Adjustable Auto Limit / Adjustable Manual Limit - 200/200°F
- S-1 Low gas pressure switch, manual-reset
- S-2 High gas pressure switch, manual-reset
- Z-4 T&P relief valve

**Gas Type:**

- Fuel
  - Natural gas (standard)
  - Propane (minimum grade HD5)

**Gas Train:**

- Firing mode
  - On/Off: model 399B
  - 2-Stage: models 499B-899

**Controls:**

- Ignition module
  - 3-Try (standard)     C-6 1-Try

**Venting:**

- D-14 Flue exhaust tee (factory mounted)

**Pumps:**

- P\_\_\_\_\_ Pump: \_\_\_\_\_ HP, 120V, 1Ø, 60Hz

Water Hardness: \_\_\_\_\_ GPG

- Bronze
- Mounted       Loose
- Front             Rear



### SHIP LOOSE ACCESSORIES

**Temperature Controls:**

- B-2 Tankstat, single-stage (100-200°F)
- B-3 Tankstat, 2-stage (100-200°F)
- B-2 or B3 Tankstat outdoor control cover
- B-6 2-stage temperature controller (100-200°F)
- B-20 On/off temperature controller (100-200°F)
- B-21 TempTracker digital controller 4-stage
- B-26 TempTracker digital controller 2-stage
- B-28 Digital on/off temperature controller (100-200°F)
- B-31 Tankstat well

**Other Options:**

- E-5 Alarm with 4" bell
- E-15 Alarm with buzzer
- F-10 Low water cut-off (remote probe)
- I-1 Adjustable Auto Limit / Adjustable Manual Limit - 240/240°F
- I-5 High limit, adj. manual-reset, 200°F max.
- I-6 Adjustable Auto Limit / Adjustable Manual Limit - 180/200°F
- I-7 Adjustable Auto Limit / Adjustable Manual Limit - 200/240°F
- I-12 Adjustable Auto Limit / Adjustable Manual Limit - 200/200°F
- S-1 Low gas pressure switch, manual-reset
- S-2 High gas pressure switch, manual-reset
- Z-4 T&P relief valve

**Controls:**

- C-6 Ignition module, 1-try

**Pumps:**

- P \_\_\_\_ Pump: \_\_\_\_ HP, 120V, 1Ø, 60Hz

\_\_\_\_\_

\_\_\_\_\_

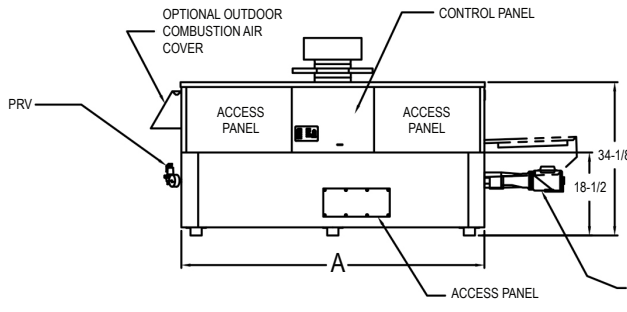
Water Hardness: \_\_\_\_ GPG

- Bronze
- Mounted       Loose
- Front             Rear

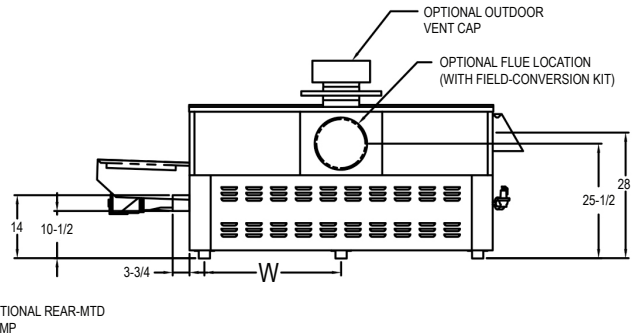
**Venting:**

- Vent Category I/III Cupronickel
- Vent Category II/IV Copper
- Vent termination and adapter kits
- D-11 Vent termination, outdoor
- D-12 Barometric damper without thermostwitch (single-acting) (Cat I)
- D-14 Flue exhaust tee
- D-15 Sidewall vent termination
- D-16 Screened air intake elbow
- D-17 Inline air intake elbow
- D-18 Flue adapter (safe-t vent only)
- D-19 Flue termination cap adapter
- D-20 Vent termination vertical (Cat I)

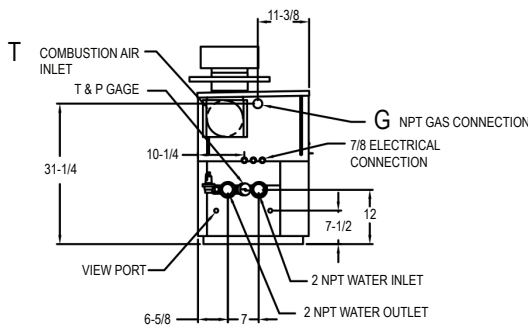
Job: \_\_\_\_\_



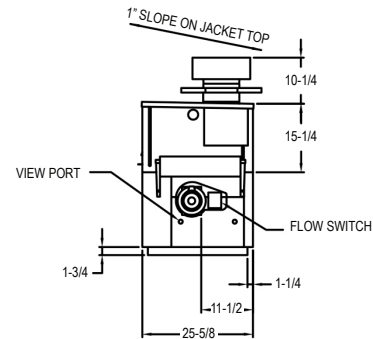
FRONT VIEW



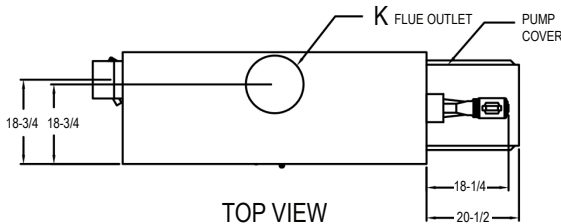
BACK VIEW



LEFT SIDE



RIGHT SIDE



TOP VIEW

NOTE: Pump location varies based on model selected

SPECIFICATIONS									
Model	MBTUH (kW)			A Width Inch (mm)	G NPT	K Inch (mm)	W Inch (mm)	Amp. Draw*	Approx. Shipping Wt. Lbs. (Kg)
	Input	Output 85%	Output 83.1%						
<input type="checkbox"/> 399B	399 (117)	339 (99)	332 (97)	43 (1092)	3/4	6 (153)	18-1/2 (470)	<6	445 (202)
<input type="checkbox"/> 499B	500 (147)	425 (124)	416 (121)	50 (1270)	1-1/4	6 (153)	22 (559)	<6	545 (247)
<input type="checkbox"/> 649B	650 (191)	553 (162)	540 (158)	60-1/2 (1536)	1-1/4	8 (203)	27-1/4 (692)	<6	590 (268)
<input type="checkbox"/> 749B	750 (220)	638 (186)	623 (182)	67-1/2 (1714)	1-1/4	8 (203)	30-3/4 (781)	<6	675 (306)
<input type="checkbox"/> 899B	900 (264)	765 (224)	748 (219)	78 (1981)	1-1/4	8 (203)	36 (915)	<7	740 (336)

NOTES:

\*Pump not included

1. Dimensions are in inches.

2. Rates shown are for natural or propane gas, and elevations up to 4,500 feet. For installation above 4,500 feet, please contact manufacturer.

3. Recommended natural gas supply pressure is 5.6" - 10.5" WC. Recommended propane gas supply pressure is 11" - 13" WC.



**Product Submittal for Delta Limited® - Type WH**

**Models 399B-899B**

**Job:** \_\_\_\_\_

83.1% System Flow and Head Loss															
Model No.	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS In. (mm)	SHL (ft. W.C.)	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS	SHL (ft. W.C.)	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS	SHL (ft. W.C.)
<input type="checkbox"/> 399B	17 (9)	40 (151)	2.0	2 (51)	5.1	13 (7)	52 (197)	3.4	2 (51)	8.4	7 (4)	90 (341)	10.0	2 (51)	23.8
<input type="checkbox"/> 499B	21 (12)	40 (151)	2.1	2 (51)	5.2	16 (9)	52 (197)	3.5	2 (51)	8.6	9 (5)	90 (341)	10.4	2 (51)	24.2
<input type="checkbox"/> 649B	27 (15)	40 (151)	2.2	2 (51)	5.3	21 (12)	52 (197)	3.7	2 (51)	8.7	12 (7)	90 (341)	10.8	2 (51)	24.7
<input type="checkbox"/> 749B	28 (15)	45 (170)	3.0	2 (51)	6.8	23 (13)	55 (208)	4.4	2 (51)	9.9	14 (8)	90 (341)	11.3	2 (51)	25.1
<input type="checkbox"/> 899B	28 (15)	54 (204)	4.3	2 (51)	9.7	21 (12)	73 (276)	7.8	2 (51)	17.2	17 (9)	90 (341)	11.7	2 (51)	25.5

85% System Flow and Head Loss															
Model No.	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS In. (mm)	SHL (ft. W.C.)	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS	SHL (ft. W.C.)	ΔT °F (°C)	GPM (L/min)	ΔP (ft. W.C.)	MTS	SHL (ft. W.C.)
<input type="checkbox"/> 399B	17 (9)	40 (151)	2.0	2 (51)	5.1	13 (7)	52 (197)	3.4	2 (51)	8.4	8 (4)	90 (341)	10.0	2 (51)	23.8
<input type="checkbox"/> 499B	21 (12)	40 (151)	2.1	2 (51)	5.2	17 (9)	52 (197)	3.5	2 (51)	8.6	10 (5)	90 (341)	10.4	2 (51)	24.2
<input type="checkbox"/> 649B	28 (15)	40 (151)	2.2	2 (51)	5.3	21 (12)	52 (197)	3.7	2 (51)	8.7	12 (7)	90 (341)	10.8	2 (51)	24.7
<input type="checkbox"/> 749B	29 (16)	45 (170)	3.0	2 (51)	6.8	23 (13)	55 (208)	4.4	2 (51)	9.9	14 (8)	90 (341)	11.3	2 (51)	25.1
<input type="checkbox"/> 899B	29 (16)	54 (204)	4.3	2 (51)	9.7	21 (12)	73 (276)	7.8	2 (51)	17.2	17 (9)	90 (341)	11.7	2 (51)	25.5

SHL includes 50 ft of tubing each way (100 total)

\*\* Must use optional cupronickel tubes. For hardness exceeding 25 GPG, must use water softener Basis for minimum flow is 40 GPM or 30°F ΔT, 90 GPM for maximum flow



**Product Submittal for Delta Limited® - Type WH**

**Models 399B-899B**

**Job:** \_\_\_\_\_

83.1% Recovery Rates									
Model No.	20°	30°	40°	50°	60°	70°	80°	90°	100°
<input type="checkbox"/> 399B	2010	1340	1005	804	670	574	502	447	402
<input type="checkbox"/> 499B	2518	1679	1259	1007	839	709	630	560	504
<input type="checkbox"/> 649B	3274	2182	1637	1309	1091	935	818	727	655
<input type="checkbox"/> 749B	3777	2518	1889	1511	1259	1079	944	839	755
<input type="checkbox"/> 899B	4533	3022	2266	1813	1511	1295	1133	1007	907

85% Recovery Rates									
Model No.	20°	30°	40°	50°	60°	70°	80°	90°	100°
<input type="checkbox"/> 399B	2055	1370	1028	822	685	587	514	457	411
<input type="checkbox"/> 499B	2576	1717	1288	1030	859	736	644	572	515
<input type="checkbox"/> 649B	3348	2232	1674	1339	1116	957	837	744	670
<input type="checkbox"/> 749B	3864	2576	1932	1545	1288	1104	966	859	773
<input type="checkbox"/> 899B	4636	3091	2318	1855	1545	1325	1159	1030	927