

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

Engineer: \_\_\_\_\_

Contractor: \_\_\_\_\_

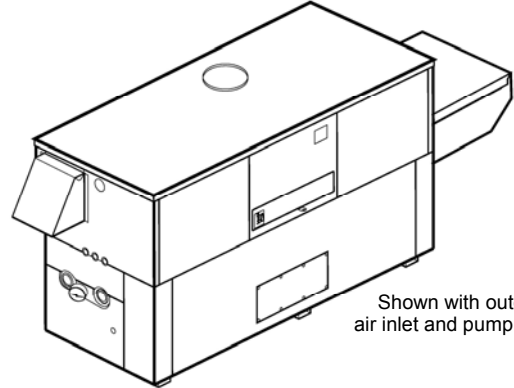
Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_

Model: \_\_\_\_\_ Indoor/Outdoor: \_\_\_\_\_ MBTUH Input: \_\_\_\_\_

# Delta Limited® - Type WH

Water Heaters  
Models 399B-899B

- 100% Factory Fire Tested**
- Efficiency: Up to 85%**
- Maximum Setpoint: 150°F**
- Maximum Outlet Temperature: 200°F**
- Minimum Non-Condensing Inlet Temperature: 105°F**
- Thermal Shock Proof Heat Exchanger**
- Limited Twenty-Year Thermal Shock Warranty**
- Limited Ten-Year Cupro-Nickel Heat Exchanger Warranty**
- Limited Five-Year Copper Heat Exchanger Warranty**
- PolyTuf Powder Coated Cabinet**
- Combustible Floor Shield Required**
- Fan-Assisted**
- Patented Burner Security Blanket**



Shown with outdoor air inlet and pump covers



Proudly Assembled in the U.S.A.

### Heat Exchanger

- ASME HLW Stamp
- Headers
  - Glass-Lined Cast Iron – Standard
  - A-1 Bronze
- ASME Inspected and Stamped  
160 PSIG Working Pressure
- National Board Approved
- Fin Tubing
  - Copper (Std.) 85%
  - Cupro-Nickel 83.1%
- ASME Steel Tube Sheet
- Silicone High Temp O-Rings
- ASME Pressure Relief Valve
  - 125 PSIG – Standard
  - \_\_\_\_\_ PSIG – Optional
- Temperature and Pressure Gauge
- Water Connections
  - Left – Standard
  - A-6 Right

### Controls

- 120V, 60Hz, 1Ø Power Supply
- 120/24V 60Hz Transformer
- 100% Shut-Off/Lockout
- Hot Surface Ignition
- Ignition Module
  - 3-Try Standard
  - C-6 Single-Try
- Remote Flame Sensor
- High Limit Control, Manual Reset
- 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 Shut-Off Valve(s)
- Combination Valves
- Firing Mode
  - On/Off: Model 399B
  - 2 Stage: Models 499B-899B
- Fuel
  - Natural Gas
  - Propane Gas
- Design Certified –  
ANSI Z21.10.3/CSA 4.3

### Burner

- Ultra-Low NOx:  
Less than 20 PPM

### Construction

- Indoor/Outdoor Construction
- Enclosed Front Controls
- CSA Low Lead Certified ≤ 0.25% Lead

### Venting

#### Vent Category I/III Cupro-Nickel Vent Category II/IV Copper

- Vent Location
  - Top, Outdoor – Standard
  - D-20 Top, Indoor
  - D-14 Rear
- Vent Termination Cap
  - D-11 Outdoor
  - D-15 Horizontal
  - Indoor, Vertical (by others)
- Extractor – Optional
  - By others
  - Not required

### Temperature Controls

- B-2 Tankstat, Single-Stage  
(100-200°F)
- B-3 Tankstat, 2-Stage (100-200°F)
- B-\_\_ TempTracker Digital Controller,  
2-Stage (Loose)
- B-\_\_ TempTracker Digital Controller,  
4-Stage (Loose)

### Options

- C-6 Ignition Module, Manual Reset
- F-10 Low Water Cut-Off, Remote Probe
- I-1 High Limit Control, Auto Reset
- P-\_\_ Pump: \_\_\_\_\_ HP, 120V, 1Ø, 60Hz  
Water Hardness: \_\_\_\_\_ GPG
  - Bronze
  - Mounted  Loose
  - Front  Rear
- S-1 Low Gas Pressure Switch, Manual
- S-2 High Gas Pressure Switch,  
Manual
- X-1 SureRack Kit
- X-2 SureRack Add-on
- \_\_\_\_\_

### Regulatory Agency Requirements

\_\_\_\_\_

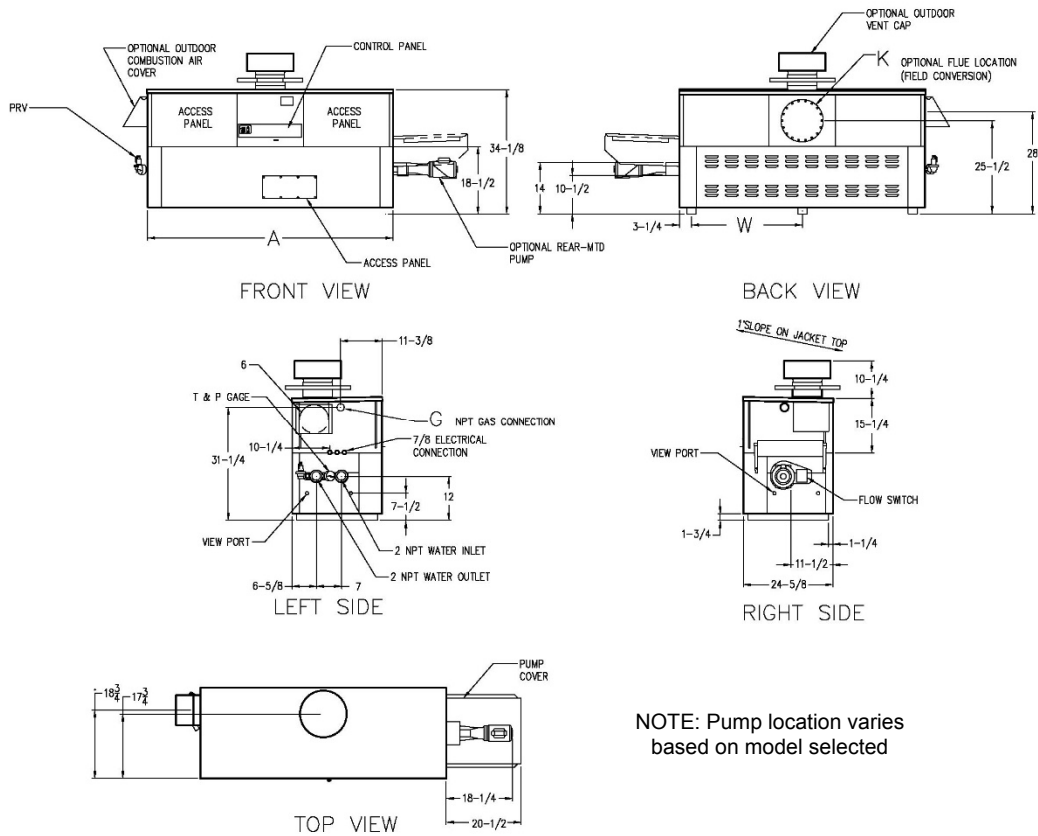


Delta Limited models not approved for use in California



# Delta Limited – Type WH Models 399B-899B

Model \_\_\_\_\_



NOTE: Pump location varies based on model selected

Model	SPECIFICATIONS								Approx. Shipping Wt. (lbs.)
	MBTUH			A Width	G NPT	K	W	Amp. Draw	
	Input	Output 85%	Output 83.1%						
<input type="checkbox"/> 399B	399	339	332	43	3/4	6	18-1/2	6	445
<input type="checkbox"/> 499B	500	425	416	50	1-1/4	6	22	6	545
<input type="checkbox"/> 649B	650	553	540	60-1/2	1-1/4	8	27-1/4	6	590
<input type="checkbox"/> 749B	750	638	623	67-1/2	1-1/4	8	30-3/4	6	675
<input type="checkbox"/> 899B	900	765	748	78	1-1/4	8	36	7	740

- NOTES:
1. Rates shown are for natural or propane gas, and elevations up to 4,500 feet. For installation above 4,500 feet, please contact manufacturer.
  2. Recommended natural gas supply pressure is 7 – 10.5" WC. Recommended propane gas supply pressure is 11 - 13" WC.
  3. Amp draw is heater less pump

# Delta Limited – Type WH

## Models 399B-899B

Model \_\_\_\_\_

Model	83.1% System Flow and Head Loss														
	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)
<input type="checkbox"/> 399B	17	40	2.0	2	5.1	13	52	3.4	2	8.4	7	90	10.0	2	23.8
<input type="checkbox"/> 499B	21	40	2.1	2	5.2	16	52	3.5	2	8.6	9	90	10.4	2	24.2
<input type="checkbox"/> 649B	27	40	2.2	2	5.3	21	52	3.7	2	8.7	12	90	10.8	2	24.7
<input type="checkbox"/> 749B	28	45	3.0	2	6.8	23	55	4.4	2	9.9	14	90	11.3	2	25.1
<input type="checkbox"/> 899B	28	54	4.3	2	9.7	21	73	7.8	2	17.2	17	90	11.7	2	25.5

Model	85% System Flow and Head Loss														
	3-4 Grains Per Gallon					5-15 Grains Per Gallon					16-25** Grains Per Gallon				
	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)	ΔT (°F)	GPM	ΔP (FT WC)	MTS (IN)	SHL (FT WC)
<input type="checkbox"/> 399B	17	40	2.0	2	5.1	13	52	3.4	2	8.4	8	90	10.0	2	23.8
<input type="checkbox"/> 499B	21	40	2.1	2	5.2	17	52	3.5	2	8.6	10	90	10.4	2	24.2
<input type="checkbox"/> 649B	28	40	2.2	2	5.3	21	52	3.7	2	8.7	12	90	10.8	2	24.7
<input type="checkbox"/> 749B	29	45	3.0	2	6.8	23	55	4.4	2	9.9	14	90	11.3	2	25.1
<input type="checkbox"/> 899B	29	54	4.3	2	9.7	21	73	7.8	2	17.2	17	90	11.7	2	25.5

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

\*\* Must use optional cupro-nickel 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

Model	83.1 % Recovery Rates									
	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	

Model	85 % Recovery Rates									
	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	

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