Job:

# Delta Limited® - Type WH

##  Water HeatersModels 989B-2339B

Engineer:

Contractor:

Prepared By:       Date:

Model:       Indoor/Outdoor:       MBTUH Input:



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

Shown with outdoor
air inlet and pump covers

PolyTuf Powder Coated Cabinet

Combustible Floor Shield Required



Fan-Assisted

Proudly Assembled in the U.S.A.

Patented Burner Security Blanket

#### Heat Exchanger

* 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, 1∅ 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
* Status Display Lights

#### Raypak-Rheem%20logo_submittalsGas Train

* Manual Gas Shut-Off Valve(s)
* Combination Valves
* Low Gas Pressure Switch, Manual
* Firing Mode

[ ]  2-Stage: Model 989B

[ ]  3-Stage: Model 1259B

[ ]  4-Stage: Models 1529B-2339B

* 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
* AB-1953 Verified
* CSA Low Lead Certified ≤ .25% Lead

#### Venting

**Category I/III Cupro-Nickel**

**Category II/IV Copper**

* Vent Location

[ ]  Top, Outdoor – Standard

[ ]  D-20 Top, Indoor

[ ]  D-14 Rear

* Vent Termination Cap

[ ]  D-11 Outdoor

[ ]  D-15 Indoor, Horizontal

[ ]  Indoor, Vertical (by others)

* Extractor – Optional

[ ]  By others

[ ]  Not required

#### Temperature Controls

Delta Limited models not approved for use in California

[ ]  B-2 Tankstat, Single-Stage
(100-200°F)

[ ]  B-3 Tankstat, 2-Stage (100-200°F)

[ ]  B-26 TempTracker Digital Controller, 2-Stage

[ ]  B-21 TempTracker Digital Controller, 4-Stage

[ ]  B-   TempTracker Mod+ (Loose) Up to 16 Boilers

#### 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,
1∅, 60Hz
Water Hardness:       GPG

 [ ]  Cast Iron [ ]  Bronze
[ ]  Mounted [ ]  Loose

 [ ]  Front [ ]  Rear

[ ]  P-   Cold Water Run (See 1000.19)

[ ]  S-2 High Gas Pressure Switch, Manual

[ ]  X-1 SureRack® Kit

[ ]  X-2 SureRack Add-on

[ ]



*For Metric information, see Catalog*

#### Regulatory Agency Requirements

[ ]



*For Metric information, see Catalog*





*For Metric information, see Catalog*

#### Delta Limited – Type WH

#### Models 989B-2339B Model



NOTE
Pump location varies based on model selected

Raypak, Inc. ▪ 2151 Eastman Avenue, Oxnard, CA 93030 ▪ (805) 278-5300 ▪ Fax (800) 872-9725 ▪ www.raypak.com

|  |  |
| --- | --- |
|  | **SPECIFICATIONS** |
| **Model** | **MBTUH** | **Firing****Stages** | **A****Width** | **K** | **T** | **W** | **Amp.****Draw\*** | **Approx.****Shipping****Wt. (Lbs.)** |
| **Input** | **Output****85%** | **Output****83.1%** |
| [ ]  989B | 990 | 842 | 823 | 3 | 57-1/8 | 10 | 10 | 16-13/16 | <12 | 900 |
| [ ]  1259B | 1260 | 1071 | 1047 | 4 | 68-1/2 | 12 | 20-9/16 | 1010 |
| [ ]  1529B | 1530 | 1301 | 1271 | 4 | 79-7/8 | 12 | 24-3/8 | 1225 |
| [ ]  1799B | 1800 | 1530 | 1496 | 4 | 91-1/8 | 14 | 28-1/8 | 1350 |
| [ ]  1999B | 2070 | 1699 | 1661 | 4 | 102-1/2 | 14 | 31-15/16 | 1450 |
| [ ]  2069B | 2070 | 1760 | 1720 | 4 | 102-1/2 | 14 | 31-15/16 | 1450 |
| [ ]  2339B | 2340 | 1989 | 1945 | 4 | 113-7/8 | 16 | 35-11/16 | 1520 |

1. Rates shown are for natural or propane gas and elevations up to 4,500 feet. For installations above 4,500 feet, please contact manufacturer.
2. Recommended natural gas supply pressure is 7.0 – 10.5 in. WC. Recommended propane gas supply pressure is 11.0 – 13.0 in. WC.
3. Amp draw is heater only less pump

#### Delta Limited – Type WH

#### Models 989B-2339B 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) |
| [ ]  989B | 28 | 60 | 2.7 | 2 1/2 | 5.2 | 17 | 98 | 7.3 | 2 1/2 | 13.3 | 13 | 132 | 13.1 | 2 1/2 | 23.6 |
| [ ]  1259B | 28 | 75 | 4.8 | 2 1/2 | 8.5 | 18 | 115 | 11.3 | 2 1/2 | 19.4 | 16 | 132 | 14.8 | 2 1/2 | 25.3 |
| [ ]  1529B | 30 | 86 | 7.1 | 2 1/2 | 11.9 | 21 | 120 | 13.7 | 2 1/2 | 22.5 | 19 | 132 | 16.5 | 2 1/2 | 27.0 |
| [ ]  1799B | 30 | 102 | 10.9 | 2 1/2 | 17.4 | 25 | 120 | 15.1 | 2 1/2 | 23.9 | 23 | 132 | 18.3 | 2 1/2 | 28.7 |
| [ ]  1999B | 30 | 112 | 13.9 | 2 1/2 | 21.6 | 25 | 132 | 19.0 | 2 1/2 | 29.5 | 25 | 132 | 19.0 | 2 1/2 | 29.5 |
| [ ]  2069B | 30 | 117 | 15.1 | 2 1/2 | 23.4 | 26 | 132 | 19.0 | 2 1/2 | 29.5 | 26 | 132 | 19.0 | 2 1/2 | 29.5 |
| [ ]  2339B | 30 | 132 | 21.4 | 2 1/2 | 31.8 | 30 | 132 | 21.4 | 2 1/2 | 31.8 | 30 | 132 | 21.4 | 2 1/2 | 31.8 |

|  |  |
| --- | --- |
| **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) |
| [ ]  989B | 28 | 60 | 2.7 | 2 1/2 | 5.2 | 17 | 98 | 7.3 | 2 1/2 | 13.3 | 13 | 132 | 13.1 | 2 1/2 | 23.6 |
| [ ]  1259B | 28 | 76 | 4.8 | 2 1/2 | 8.5 | 19 | 115 | 11.3 | 2 1/2 | 19.4 | 16 | 132 | 14.8 | 2 1/2 | 25.3 |
| [ ]  1529B | 32 | 83 | 7.1 | 2 1/2 | 11.9 | 22 | 120 | 13.7 | 2 1/2 | 22.5 | 20 | 132 | 16.5 | 2 1/2 | 27.0 |
| [ ]  1799B | 32 | 98 | 10.9 | 2 1/2 | 17.4 | 26 | 120 | 15.1 | 2 1/2 | 23.9 | 23 | 132 | 18.3 | 2 1/2 | 28.7 |
| [ ]  1999B | 32 | 108 | 13.9 | 2 1/2 | 21.6 | 26 | 132 | 19.0 | 2 1/2 | 29.5 | 26 | 132 | 19.0 | 2 1/2 | 29.5 |
| [ ]  2069B | 32 | 112 | 15.1 | 2 1/2 | 23.4 | 27 | 132 | 19.0 | 2 1/2 | 29.5 | 27 | 132 | 19.0 | 2 1/2 | 29.5 |
| [ ]  2339B | 32 | 126 | 21.4 | 2 1/2 | 31.8 | 30 | 132 | 21.4 | 2 1/2 | 31.8 | 30 | 132 | 21.4 | 2 1/2 | 31.8 |

|  |  |
| --- | --- |
| **Model** | **83.1% RECOVERY RATES (GPH)** |
| **Temperature Rise (°F)** |
| **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | **100°** |
| [ ]  989B | 4986 | 3324 | 2493 | 1994 | 1662 | 1425 | 1247 | 1108 | 997 |
| [ ]  1259B | 6346 | 4231 | 3173 | 2538 | 2115 | 1813 | 1586 | 1410 | 1269 |
| [ ]  1529B | 7706 | 5137 | 3853 | 3082 | 2569 | 2202 | 1926 | 1712 | 1541 |
| [ ]  1799B | 9065 | 6044 | 4533 | 3626 | 3022 | 2590 | 2266 | 2015 | 1813 |
| [ ]  1999B | 10068 | 6712 | 5034 | 4027 | 3356 | 2876 | 2517 | 2237 | 2014 |
| [ ]  2069B | 10425 | 6950 | 5213 | 4170 | 3475 | 2979 | 2606 | 2317 | 2085 |
| [ ]  2339B | 11785 | 7857 | 5893 | 4714 | 3928 | 3367 | 2946 | 2619 | 2357 |

|  |  |
| --- | --- |
| **Model** | **85% RECOVERY RATES (GPH)** |
| **Temperature Rise (°F)** |
| **20°** | **30°** | **40°** | **50°** | **60°** | **70°** | **80°** | **90°** | **100°** |
| [ ]  989B | 5100 | 3400 | 2550 | 2040 | 1700 | 1457 | 1275 | 1133 | 1020 |
| [ ]  1259B | 6491 | 4327 | 3245 | 2596 | 2164 | 1855 | 1623 | 1442 | 1298 |
| [ ]  1529B | 7882 | 5255 | 3941 | 3153 | 2627 | 2252 | 1970 | 1752 | 1576 |
| [ ]  1799B | 9273 | 6182 | 4636 | 3709 | 3091 | 2649 | 2318 | 2061 | 1855 |
| [ ]  1999B | 10298 | 6865 | 5149 | 4119 | 3433 | 2942 | 2574 | 2288 | 2060 |
| [ ]  2069B | 10664 | 7109 | 5332 | 4265 | 3555 | 3047 | 2666 | 2370 | 2133 |
| [ ]  2339B | 12055 | 8036 | 6027 | 4822 | 4018 | 3444 | 3014 | 2679 | 2411 |

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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 55 GPM or 30°F ∆T, 132 GPM for maximum flow