Job:

# Hi Delta SS®- Type H

## Space Heating/Hot Water Boiler Models HD101-HD401

Engineer:

Contractor:

Prepared By:       Date:

Model:       Indoor/Outdoor:       MBTUH Input:

TruSeal® Direct Vent



Sealed Combustion Chamber

100% Factory Fire Tested

Efficiency: HD101 – HD 301 85% AFUE

 HD401 - 84% Thermal

Maximum Outlet Temperature: 240°F

Minimum Non-condensing Inlet Temperature: 105°F

Thermal Shock Proof Heat Exchanger

Limited Twenty-year Thermal Shock Warranty

Limited Ten-year Closed-System Heat Exchanger Warranty

Status Display LED’s

PolyTuf Powder-Coated Cabinet

No Combustible Floor Shield Required

Proudly Assembled in the USA

Fan-assisted – Ultra Low NOx (<20 ppm Nat.)

Patented Burner Security Blanket

#### Heat Exchanger

* H Stamp
* Headers

[ ]  Cast Iron, Glass-lined – Standard

[ ]  A-1 Bronze

* ASME Inspected and Stamped
160 PSIG Working Pressure
* National Board Approved
* Finned Tubing

[ ]  Copper – Standard

[ ]  A-3 Cupro-Nickel

* ASME Steel Tube Sheet
* Silicone High-Temp O-Rings
* Pressure Relief Valve - ASME

[ ]  45 PSIG - Standard

[ ]        PSIG - Optional

* Temperature and Pressure Gauge (shipped loose)
* Flow Switch - Mounted
* [ ]  Left-hand Water (Standard)
* [ ]  A-6 Right-hand water

#### Controls

* 120V, 60Hz, 1 Power Supply
* 120/24V 60Hz Transformer
* 100% Shutoff/Lockout
* Hot Surface Ignition
* Remote Flame Sensor
* Fixed High Limit Control, Manual Reset
* On/Off Power Switch
* Blocked Vent Pressure Switch
* Combustion Air Proving Switches (2)
* Economaster Style Pump Relay
* Electronic Outdoor Reset Controller (HD101 – HD301 Only) 2-Stage Controller w/Outdoor Reset, Setpoint 120-200°F

#### Raypak-Rheem logo_submittalsGas Train

* 4” WC Minimum Pressure
* Combination Valve
* Firing Mode

[ ]  Two-stage (H3) - Standard

[ ]  On/Off (H4) - Optional

* Fuel

[ ]  Natural Gas

[ ]  Propane Gas

* Design Certified
ANSI Z21.13/CSA 4.9

#### Burner

* Two-stage
* Ultra-low NOx (<20 ppm Nat.)

#### Construction

* Indoor/Outdoor Construction
* Slide-out Controls Tray
* Front Controls Enclosed
* PolyTuf Powder Coat Finish
* TruSeal® Direct Vent
* Integral Combustion Air Filter

#### Venting

* Vent Termination Cap

[ ]  D-11 Outdoor

[ ]  D-15 Indoor, Horizontal

[ ]  D-20 Indoor, Vertical

* Combustion Air - Ducted

[ ]  D-16 Air Intake Elbow

* Extractor – Optional

[ ]  By others



[ ]  Not required

#### Temperature Controls (HD-401 Only)

[ ]  B-3 1-Stage Controller, 100-200°F (Loose)

[ ]  B-6 2-Stage Controller, 130-230°F (Loose)

[ ]  B-21 TempTracker Digital Controller 4-Stage (loose)

[ ]  B-26 TempTracker Digital Controller, 2-Stage (Mtd)

[ ]  B-27 TempTracker Digital Controller, 2-Stage, O/D (Mtd)

[ ]  B-28 On/Off Digital Controller, (Mtd)

[ ]  B-42 Electronic Controller, 2-stg, Outdoor Reset, 120° - 200°F (Mtd)

[ ]  B-32 Remote Controller

 [ ]  By others:

#### Options

[ ]  F-10 Low Water Cut-off, Remote Probe

[ ]  I-1 Adjustable High Limit Control, Auto Reset

[ ]  P-   Pump:      HP, 120V, 160 Hz
[ ]  Bronze [ ]  Mounted

 [ ]  Cast Iron [ ]  Loose

[ ]  P-   Cold Water Protection (See 1000.19)

[ ]  S-\_\_ Low and High Gas Pressure Switches, Manual

#### Hi Delta SS HD101-HD401

#### Type H - Hydronic Heating Model



|  |  |
| --- | --- |
| ModelH3- |  |
| HD101 | 0010 1/8 – 1.3 |
| HD151 |
| HD201 |
| HD251 |
| HD301 |
| HD401 |

**Primary Pump HP - Amps**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  | **APPROX.****SHIP WT.****(LBS.)** |
| **MODEL** | **MBTUH** | **AFUE****(%)** | **A** | **B** | **K** | **Z** | **Boiler****Amps‡** |
| **INPUT** | **OUTPUT** |
| HD101 | 100 | 84 | 85 | 18-9/16 | 9-1/4 | 4 | 19-15/16 | <5 | 150 |
| HD151 | 150 | 126 | 21-7/8 | 10-7/8 | 4 | 23-3/16 | <5 | 175 |
| HD201 | 199 | 167 | 25-1/16 | 12-1/2 | 5 | 26-7/16 | <5 | 200 |
| HD251 | 250 | 210 | 28-5/16 | 14-1/8 | 5 | 29-11/16 | <5 | 225 |
| HD301 | 299 | 251 | 31-9/16 | 15-3/4 | 5 | 32-15/16 | <5 | 250 |
| HD401 | 399 | 335 | 84\* | 38-1/16 | 19 | 6 | 39-7/16 | <5 | 300 |

 Dimensions are in inches.

 ‡ Amp draw does not include pump. \* Thermal Efficiency

**RATES OF FLOW AND PRESSURE DROPS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **MODEL** | **Input****MBTUH** | **Output****MBTUH** | **10ºF ∆T** | **20ºF ∆T** | **30ºF ∆T** | **MIN. FLOW** | **MAX. FLOW** |
| **GPM** | **∆P (ft)** | **GPM** | **∆P (ft)** | **GPM** | **∆P (ft)** | **GPM** | **∆P (ft)** | **∆T** | **GPM** | **∆P (ft)** | **∆T** |
| HD101 | 100 | 84 | 17 | 1.2 | N/A | N/A | N/A | N/A | 13 | 0.8 | 13 | 44 | 8.8 | 4 |
| HD151 | 150 | 126 | 25 | 2.9 | 13 | 0.8 | N/A | N/A | 13 | 0.8 | 20 | 44 | 8.8 | 6 |
| HD201 | 199 | 167 | 33 | 5.2 | 17 | 1.3 | N/A | N/A | 13 | 3.3 | 27 | 44 | 8.9 | 8 |
| HD251 | 250 | 210 | 44 | 9.2 | 21 | 2.1 | 14 | 0.9 | 13 | 0.7 | 34 | 44 | 9.2 | 10 |
| HD301 | 299 | 251 | N/A | N/A | 25 | 3.1 | 17 | 1.3 | 13 | 0.7 | 40 | 44 | 9.4 | 11 |
| HD401 | 399 | 335 | N/A | N/A | 34 | 5.6 | 22 | 2.5 | 22 | 2.5 | 30 | 44 | 9.8 | 15 |

NOTE: Basis for minimum flow is 13 GPM or 40°F ∆T.

NOTES: 1. Rates shown are for natural or propane gas, and elevations up to 2,000 feet. For installations above 2,000 feet, please contact manufacturer.

 2. Recommended natural gas pressure is 7 – 10.5” WC. Recommended propane gas pressure is 11 - 13” WC.

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