

CITY OF SACRAMENTO

Permit No: 0517105

1231 I Street, Sacramento, CA 95814

Insp Area: 1  
Thos Bros: 297C3

Site Address: 331 J ST SAC

Sub-Type: NOTHR

Parcel No: 006-0024-052

ROOFTOP

Housing (Y/N): N

CONTRACTOR

INNOVATIVE MAINTENANCE SOLUTIONS INC.  
4212 N. FREEWAY BL. # 8  
SAC, CA. 95834

OWNER

331 J STE STE 110  
SACRAMENTO, CA 95814

ARCHITECT

WONG CENTER

Nature of Work: REPLACE 1MIL BTU WATER HEATER ON ROOFTOP

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name \_\_\_\_\_ Lender's Address \_\_\_\_\_

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class \_\_\_\_\_ License Number 786507 \_\_\_\_\_ Date \_\_\_\_\_ Contractor Signature Dennis Hooper

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

PAID  
CITY OF SACRAMENTO  
OCT 28 2005

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 10/28/05 Applicant/Agent Signature Dennis Hooper

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE FUND COMP Policy Number 158602302 Exp Date 05/01/2006

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 10/28/05 Applicant Signature Dennis Hooper

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

ISSUED  
City of Sacramento  
OCT 20 2005

NORTH PERMIT  
CENTER

(EXISTING)  
ELECTRICAL  
P.O.C.

(TYP)  
LAG/TECH SCREWS  
3/8" x 4"

REPLACEMENT  
SHEET METAL CAP

(EXISTING)  
GAS LINE

REPLACEMENT  
WATER HEATER

(EXISTING)  
WATER LINES

L BRACKETS  
4x4x 1/4" (TYP)  
(2 per side) .8

(EXISTING)  
PLATFORM

THE APPROVAL OF ALL  
PLUMBING AND MECHANICAL WORK  
IS SUBJECT TO FIELD INSPECTIONS

CONCRETE  
DECK

N.T.S.

CITY COPY

This set of plans and specifications must be  
kept on site at all times and it is unlawful  
to make any change or alterations from the  
original without the permission from the  
City of Sacramento.

INNOVATIVE MAINTENANCE SOLUTIONS, INC  
4212 N. FREEMAN BLVD SUITE B  
SACRAMENTO, CA 95831  
CA LICENSE # 786507

WATER HEATER  
REPLACEMENT  
WONG CENTER  
331 J STREET  
SACRAMENTO CA.

#0517105 331 J ST.

Job: WONG CENTER 331 J ST.

# Raytherm™ - Type H

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

Hydronic Heating Boilers  
Commercial

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

Models 962-1826 (Indoor)

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

Model: \_\_\_\_\_

### EFFICIENT

- ▶ 82% thermal efficiency – highest of any atmospheric boiler available today

**(EXISTING)**

### THERMAL SHOCK PROOF

- ▶ Twenty-year warranty against thermal shock damage up to 150°F differential
- ▶ Maximum operating temperature: 230°F

### LIGHTWEIGHT

- ▶ A floor load of 70 lbs./sq. ft. or less ←

### HIGH RECOVERY

- ▶ Cuts fuel costs substantially because the standby and radiation losses normal to other boilers are eliminated

### LOW WATER OPERATING TEMPERATURE

- ▶ Operates with water temperature as low as 105°F without condensing

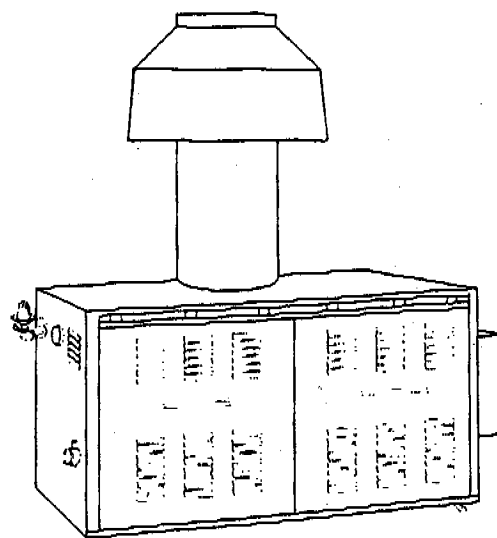


Fig. #90014

### Heat Exchanger

- ASME Inspected and Stamped 160 PSIG
- National Board Approved
- Headers
  - Glass-lined Cast Iron (standard)
  - Bronze
- Finned Tubing
  - Copper (standard)
  - Cupro Nickel
- ASME Steel Tube Sheet
- Silicone O-Rings
- 60 PSIG ASME Pressure Relief Valve
- Temperature and Pressure Gauge (Boiler)
- Water Connections
  - Left Hand (standard)
  - Right Hand
- Flow Configuration
  - Two-pass (standard)
  - Single-pass (cast iron only)

### Controls

- 115V, 60Hz, 1 Ph Power Supply
- 115/24V Transformer
- 100% Pilot Shut-off/Lockout
- Electronic, Intermittent Ignition (IID) Pilot
- High Limit Control – Manual Reset
- On/Off Switch
- Flow Switch
- Economaster II Pump Time Delay

### Gas Control Train

- Manual Main Gas Shut-off Cock
- Main Gas Pressure Regulator
- Redundant Safety Shut-off Valve
- Control Valve
- Firing Mode
  - On/off
  - Two-stage Firing
  - Four-stage Firing
  - Mechanical Modulation
  - Motorized Modulation
- Fuel
  - Natural Gas
  - Propane Gas
- Design Certified to ANSI Z21.13 Requirements

### Construction

- Front Controls
- Stainless Steel Burners
- Polytuf Powder Coat Finish
- Top
  - Draft Diverter – Indoor
  - Stackless Top – Outdoor
  - Motorized Draft Inducer – Indoor
- Base (Optional)
  - Combustible Floor Shield

### Temperature Controllers

- Modulating (H2)
- Single-stage (H4)
- Two-stage
- Four-stage Digital (H9)
- 1-8 Stages - Y2B Outdoor Reset
- 1-8 Stages - Y3B Outdoor Reset
- 1-8 Stages - Y4B Outdoor Reset
- 1-8 Stages - Y5B Outdoor Reset

Note: H1 and H5 do not require a controller

### Additional Safety Controls

- Low Water Cut-off Probe
- High Gas Pressure Switch – Manual
- Low Gas Pressure Switch – Manual
- High Limit Control, Auto Reset

### Regulatory Agency Requirements

- Industrial Risk Insurers (IRI)

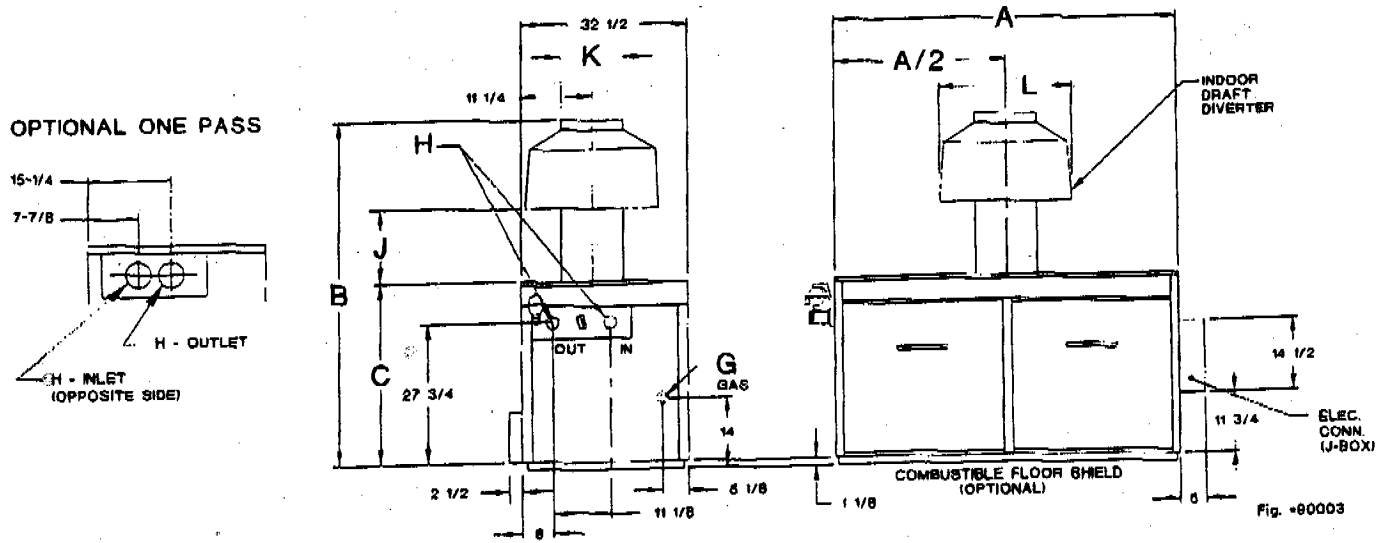


THE APPROVAL OF ALL  
PLUMBING AND MECHANICAL WORK  
IS SUBJECT TO FIELD INSPECTIONS

**Raypak**

# Raytherm - Type H Hydronic Heating Boilers

Model \_\_\_\_\_



## MODELS 962 THRU 1826

Model Size	MBTUH Natural Gas		Dimensions (Inches)								Approx. Shipping Weight (Lbs.)
	Input	Output	Width A	Overall Height B	Jacket Height C	Gas Conn. G	Water Conns. H	J	Flue Dia. K	L	
H-962	961.7	788.6	52-3/8	76-1/8 (a)	33-1/2	1	2-1/2 (c)	23-5/8	14	28	705
H-1125	1124.7	922.0	59-1/4	78-1/8 (a)	33-1/2	1 (b)	2-1/2 (c)	23-5/8	16	32	745
H-1223	1222.5	1002.4	63-5/8	78-1/8 (a)	33-1/2	1 (b)	2-1/2 (c)	23-5/8	16	32	805
H-1336	1336.6	1096.0	68-5/8	80-1/8 (a)	33-1/2	1-1/4	2-1/2 (c)	23-5/8	18	36	875
H-1468	1467.0	1203.0	74-7/8	80-1/8 (a)	33-1/2	1-1/4	2-1/2 (c)	23-5/8	18	36	945
H-1631	1630.0	1336.6	81-1/8	83-1/8 (a)	36-1/2	1-1/4	2-1/2 (c)	23-5/8	18	36	985
H-1826	1825.6	1497.0	89-3/8	85-1/8 (a)	38-1/2	1-1/4	2-1/2 (c)	23-5/8	20	40	1035

NOTE: Ratings shown are for elevations up to 2,000 feet. For elevations over 2,000, reduce ratings at the rate of 4% for each 1,000 feet above sea level.

(a) Add 1-1/8" to overall height for combustible floor shield option  
(b) 1" or 1-1/4" contingent on boiler type or code requirements  
(c) 3" NPT on single-pass option

## BOILER RATE OF FLOW AND PRESSURE DROP

TWO PASS	10° ΔT		20° ΔT		30° ΔT		40° ΔT	
	GPM	ΔP FT.	GPM	ΔP FT.	GPM	ΔP FT.	GPM	ΔP FT.
962	N/A	N/A	79	8.5	53	3.8	N/A	N/A
1223	N/A	N/A	N/A	N/A	67	7.0	50	3.9
1468	N/A	N/A	N/A	N/A	80	11.0	60	6.2
1826	N/A	N/A	N/A	N/A	N/A	N/A	75	10.6
ONE PASS								
962	157	6.1	N/A	N/A	N/A	N/A	N/A	N/A
1223	200	11.0	100	2.9	N/A	N/A	N/A	N/A
1468	N/A	N/A	120	4.5	N/A	N/A	N/A	N/A
1826	N/A	N/A	150	8.0	100	3.7	N/A	N/A

N/A: Not Applicable

NOTES: Above values represent maximum flows and pressure drops for closed heating systems.  
Maximum acceptable flow through heat exchanger tubes is 90 GPM for two-pass and 200 GPM for single-pass.  
Single-pass heat exchangers are to be used only when flow rates exceed the allowable for two-pass.

Raypak, Inc. • 31111 Agoura Road, Westlake Village, CA 91361-4699 • (818) 889-1500 • Fax (818) 889-4522 • www.raypak.com  
Raypak Canada LTD. • 2805 Slough Street, Mississauga, Ontario, Canada L4T 1G2 • (905) 677-7999 • Fax: (905) 677-8036  
Raypak Australia Pty. Ltd • 7 Geddes Street, Mulgrave, Victoria, Australia 3170 • (6139) 560 4944 • Fax (6139) 560 4974 • www.raypak.com.au

Catalog No.: 2000.24L

Effective: 12-1-99

Replaces: 8-1-99

Job: WONG CENTER 331 J ST  
 Engineer: \_\_\_\_\_  
 Contractor: IMS  
 Prepared By: NWSAC / JM Date: 6/17/05  
 Model: WH1 - 1414

# Raytherm™ - Type WH

Water Heaters  
 Commercial

Models 926-1758 (Outdoor)

**EFFICIENT**

- ▶ 82% thermal efficiency – highest of any atmospheric water heater available today

**THERMAL SHOCK PROOF**

- ▶ Twenty-year warranty against thermal shock damage up to 150°F differential
- ▶ Maximum operating temperature: 210°F

**LIGHTWEIGHT**

- ▶ A floor load of 70 lbs./sq. ft. or less ←

**HIGH RECOVERY**

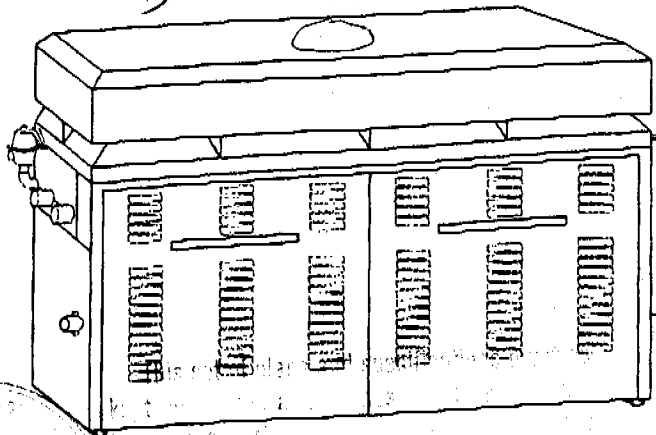
- ▶ Cuts fuel costs substantially because the standby and radiation losses associated with tank-type water heaters are eliminated

**LOW WATER OPERATING TEMPERATURE**

- ▶ Operates with water temperature as low as 105°F without condensing

*(REPLACEMENT)*

18φ



OUTDOOR

**Heat Exchanger**

- ASME Inspected and Stamped 160 PSIG
- National Board Approved
- Headers
  - Bronze – Standard
  - Glass-lined Cast Iron
- Fin Tubing
  - Copper – Standard
  - Cupro Nickel
- ASME Steel Tube Sheet
- Silicone O-Rings
- 125 PSIG ASME Pressure Relief Valve
- Temperature and Pressure Gauge
- Water Connections
  - Left Hand – Standard
  - Right Hand
- Two-pass Flow Configuration
- Pump, Rear-mounted, 1/2 HP, 120 VAC, 1Ø, 60 Hz – Optional
  - 4.25" Impeller
  - 4.7" Impeller

**Controls**

- 115V, 60Hz, 1 Ph Power Supply
- 115/24V Transformer
- 100% Pilot Shut-off/Lockout
- Electronic, Intermittent Ignition (IID) Pilot
- High Limit Control, Manual Reset – 200°F

**Controls (cont.)**

- On/Off Switch
- Flow Switch
- Economaster II Pump Time Delay

**Gas Control Train**

- Manual Main Gas Shut-off Cock
- Main Gas Pressure Regulator
- Redundant Safety Shut-off Valve
- Control Valve
- Firing Mode
  - On/Off
  - 2-stage Firing
  - Mechanical Modulation
- Fuel
  - Natural Gas
  - Propane Gas
- Design Certified ANSI Z21.10.3

**Construction**

- Front Controls
- Stainless Steel Burners
- PolyTuf Powder Coat Finish
- Stackless Top
- Base – Optional
  - Combustible Floor Shield

0/27/05  
 THE APPROVAL OF ALL  
 PLUMBING AND MECHANICAL WORK  
 IS SUBJECT TO FIELD INSPECTIONS

*(Signature)*

**Temperature Controls**

- Single-stage Aquastat – 100-200°F
- 2-stage Aquastat – 130-230°F
- 2-stage Aquastat – 55-175°F
- 1-8 Stages – Y2B Sequencer
- 1-8 Stages – Y3B Sequencer
- 1-8 Stages – Y4B Sequencer
- 1-8 Stages – Y5B Sequencer

**Additional Safety Controls**

- Low Water Cut-off Probe
- High Gas Pressure Switch
- Low Gas Pressure Switch
- High Limit Control, Auto Reset – 200°F
- \_\_\_\_\_
- \_\_\_\_\_

**Regulatory Agency Requirements**

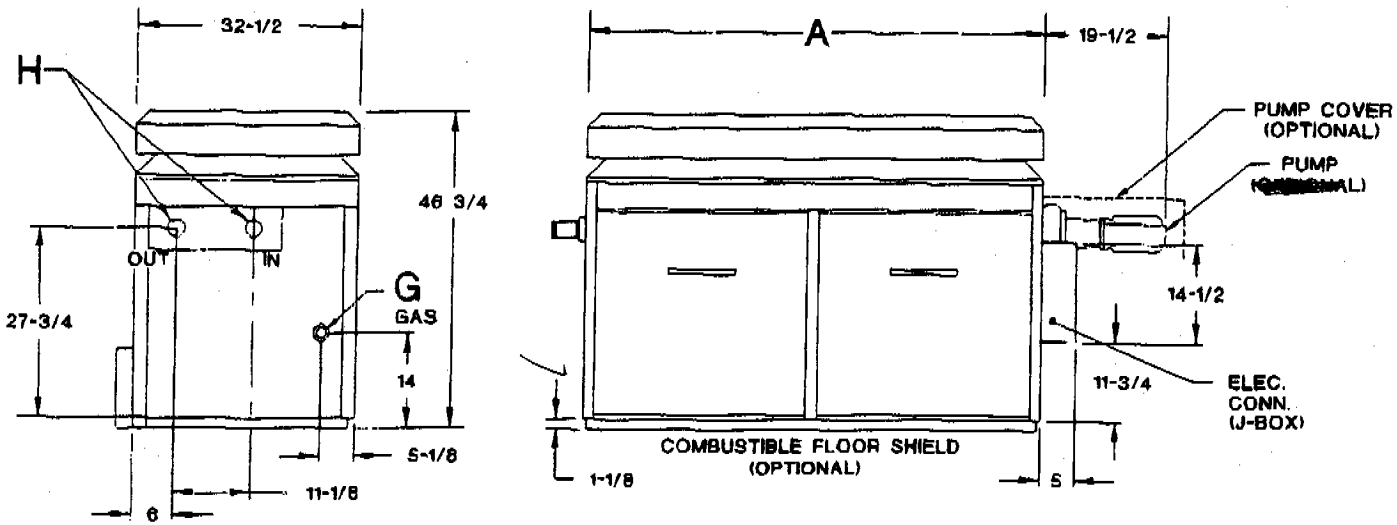
- Industrial Risk Insurers (IRI)
- CSD-1 Safety Controls
- \_\_\_\_\_



**Raypak**  
 A BURNS COMPANY

# Raytherm - Type WH Models 926-1758

Model WH1 - 1414



### MODELS 926 THRU 1758

Model No.	MBTUH Natural Gas		Dimensions (Inches)			Shipping Weight Lbs. (Approx.)	
			Width A	Gas Conn. G	Water Conns. H		
	Input	Output				Less Pump	w/Pump
WH-926	926.0	759.0	52-3/8	1	2-1/2	785	840
WH-1083	1083.0	888.0	59-1/4	1	2-1/2	865	920
WH-1178	1178.0	988.0	63-5/8	1	2-1/2	925	980
WH-1287	1287.0	1055.0	68-5/8	1-1/4	2-1/2	980	1035
WH-1414	1413.0	1158.5	74-7/8	1-1/4	2-1/2	1080	1130
WH-1571	1570.0	1287.0	81-1/8	1-1/4	2-1/2	1130	1190
WH-1758	1758.0	1441.5	89-3/8	1-1/4	2-1/2	1160	1220

NOTE: Ratings shown are for elevations up to 2,000 feet. For elevations over 2,000 feet, reduce ratings 4% for each 1,000 feet above sea level.

### HEATER RATES OF FLOW AND PRESSURE DROPS

Model No.	20° ΔT		30° ΔT		40° ΔT	
	GPM	ΔP (ft)	GPM	ΔP (ft)	GPM	ΔP (ft)
WH-926	76	8.0	51	3.5	N/A	N/A
WH-1083	89	11.7	59	5.1	44	2.9
WH-1178	N/A	N/A	64	6.3	48	3.6
WH-1287	N/A	N/A	70	8.0	53	4.5
WH-1414	N/A	N/A	77	10.2	58	5.8
WH-1571	N/A	N/A	88	13.2	64	7.3
WH-1758	N/A	N/A	N/A	N/A	72	9.7

### HEATER RECOVERY RATES (GPH)

Model No.	Temperature Rise						
	20°F	30°F	40°F	50°F	60°F	80°F	100°F
WH-926	4558	3038	2279	1823	1519	1139	912
WH-1083	5330	3554	2665	2132	1777	1333	1066
WH-1178	5798	3865	2899	2319	1933	1450	1160
WH-1287	6335	4223	3167	2534	2112	1584	1267
WH-1414	6955	4636	3477	2782	2318	1739	1391
WH-1571	7727	5152	3864	3091	2578	1932	1545
WH-1758	8653	5769	4326	3461	2884	2163	1731

NOTE: Maximum acceptable flow through heat exchanger tubes is 90GPM.

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PLUMBING AND MECHANICAL WORK  
IS SUBJECT TO FIELD INSPECTIONS

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Catalog No.: 3500.22A      Effective: 7-15-04      Replaces: 2-1-01