



Domestic Hot Water Heaters and Boilers



8900 SERIES



RELIABLE DOMESTIC HOT WATER AND HYDRONIC SPACE HEATING.

RBI 8900 Series atmospheric combustion units offer thermal efficiencies of 81% and are the most durable and serviceable boilers on the market. They offer a wide 420 to 1,900 MBH size range for applications from car washes to office buildings. All models come with intermittent pilot ignition, adjustable high limit, 24V gas valve with either single-stage or two-stage firing. A motorized gas valve for modulation firing is also available.

STANDARD EQUIPMENT

- Bronze headers for hot water supply
- Cast iron headers for hydronic heating
- 2-Pass finned copper tube heat exchanger, national board certified 160 psi ASME
- Slide out heat exchanger for easy and economic maintenance
- ASME pressure relief valve, mounted
- 2 1/2" interlocking combustion chamber
- Front mount 24V controls
- FM/CSD-1 gas train compliant
- Leak test valves
- Built-in, integral draft diverter single flue opening
- Flow switch mounted and wired
- Inlet & outlet thermometers
- 115/24 volt transformer
- Operating aquastat
- High limit control with manual reset
- Electronic intermittent pilot ignition
- Single phase pump delay
- Slide out burner tray

OPTIONAL EQUIPMENT

- Single pass heat exchanger
- On/off, two-stage, four-stage, or modulating firing modes
- Flame safeguard ignition with motorized gas valves and 110V controls
- Keyboard display module S7800A
- Dual flue outlet (840-1900)
- Power venter
- High & low gas pressure switches
- Cupro-nickel heat exchanger
- Low water cut-off
- Tekmar® BTC control for staged firing
- Alarm for flame failure with silencing switches

SMART SERVICE DESIGN

Ease of installation and service are trademarks of all RBI water heaters and boilers. Critical components are fully accessible, including slide out burner tray and heat exchanger to make short work of service and maintenance calls. Inspection and replacement of combustion chamber by simple removal of end panel and end refractory can be done in less than 15 minutes. All major components can be inspected or removed without disturbing boiler casing or breaching.

- Slide out heat exchanger
- Up front 24 volt controls
- Slide out burner tray
- High temperature ceramic fiberboard insulation
- All major components can be inspected or removed without disturbing boiler casing or breaching.
- Gas and water connections from either the left or right hand side of unit
- Field reversible headers

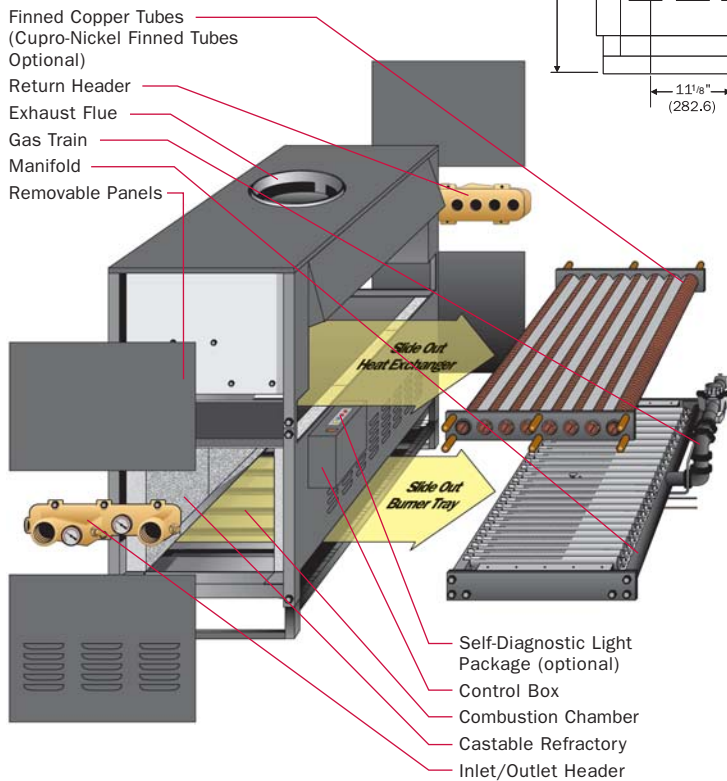
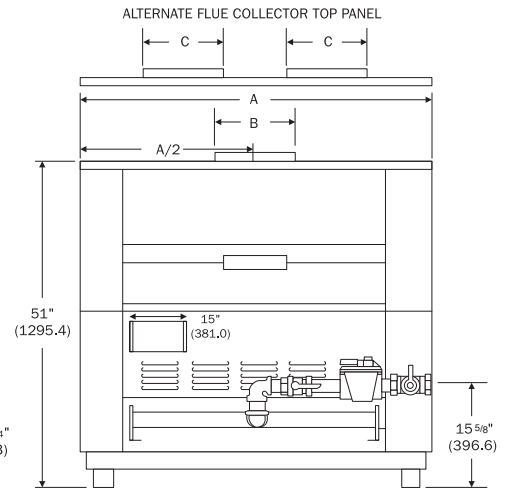
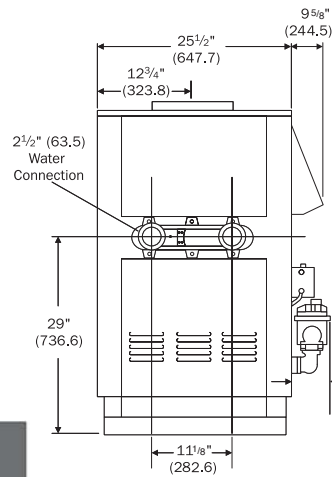
DEPENDABLE, EFFICIENT PERFORMANCE

- 81% efficient
- Heavy duty structural steel frame
- Robust spark ignition
- 16 or 18 gauge sheet metal components
- 5-Year heat exchanger warranty, hot water supply boilers
- 10-Year heat exchanger warranty, hydronic heating boilers

DIMENSIONS AND RATINGS

Model	Input		Output		Net I=B=R		Flue Vent				Dual Exhaust Vent		Connections		
					Rating		Dim. A		Dim. B		Dim. C		Gas		Water
	MBH	kW	MBH	kW	MBH	kW	In.	mm	In.	mm	In.	mm	Nat.	LP	In.
420	420	123	340	100	293	86	28½	724	10	254	–	–	1	1	2½*
530	530	155	429	126	370	108	33	830	10	254	–	–	1	1	2½*
630	630	185	510	150	440	129	37½	952	12	305	–	–	1	1	2½*
735	735	215	595	174	513	150	42	1056	14	355	–	–	1	1	2½*
840	840	246	680	199	586	172	46½	1181	14	355	10	254	1	1	2½*
950	950	278	770	225	664	195	51	1295	14	355	10	254	1	1	2½*
1050	1050	308	851	249	734	215	55½	1409	16	406	12	305	1¼	1¼	2½
1160	1160	340	940	275	810	237	60	1524	16	406	12	305	1¼	1¼	2½
1260	1260	369	1021	299	880	258	64½	1638	16	406	12	305	1¼	1¼	2½
1370	1370	401	1110	325	957	280	69	1752	18	457	14	355	1¼	1	2½
1470	1470	431	1191	349	1027	301	73½	1867	18	457	14	355	1¼	1¼	2½
1580	1580	463	1280	375	1103	323	78	1981	18	457	14	355	1¼	1¼	2½
1685	1685	494	1365	400	1177	345	82½	2095	18	457	14	355	1¼	1¼	2½
1790	1790	524	1450	425	1250	366	87	2210	20	508	16	406	1½	1½	2½
1900	1900	557	1539	451	1327	389	91½	2324	20	508	16	406	1½	1½	2½

* 2½" x 2" reducing fitting installed.



NOTES:

- Minimum Clearance from Combustible Material is: 24" top, 48" front, 18" back and 18" side.
- Minimum Frontal Clearance for Burner Service is 36".
- Dimensions in parenthesis are in millimeters.
- The 8900 Series are Category I appliances and must be vented into a negative pressure vent system.



MEA#117-96-E

RECOVERY CAPACITY ΔT (GPH & LPH)

Model	40° F	22° C	60° F	33° C	80° F	44° C	100° F	56° C	120° F	67° C	140° F	78° C
420	1021	3865	681	2577	511	1932	408	1546	340	1288	292	1104
530	1288	4877	859	3251	644	2439	515	1951	429	1626	368	1393
630	1532	5797	1021	3865	766	2899	613	2319	511	1932	438	1656
735	1787	6764	1191	4509	893	3382	715	2705	596	2255	511	1932
840	2042	7730	1361	5153	1021	3865	817	3092	681	2577	583	2209
950	2309	8742	1540	5828	1155	4371	924	3497	770	2914	660	2498
1050	2553	9662	1702	6442	1276	4831	1021	3865	851	3221	729	2761
1160	2820	10675	1880	7116	1410	5337	1128	4270	940	3558	806	3050
1260	3063	11595	2042	7730	1532	5797	1225	4638	1021	3865	875	3313
1370	3330	12607	2220	8405	1665	6304	1332	5043	1110	4202	952	3602
1470	3574	13527	2382	9018	1787	6764	1429	5411	1191	4509	1021	3865
1580	3841	14540	2561	9693	1920	7270	1536	5816	1280	4847	1097	4154
1685	4096	15506	2731	10337	2048	7753	1638	6202	1365	5169	1170	4430
1790	4351	16472	2901	10981	2176	8236	1741	6589	1450	5491	1243	4706
1900	4619	17484	3079	11656	2309	8742	1848	6994	1540	5828	1320	4996

HEAT EXCHANGER HEAD LOSS & TEMPERATURE RISE

Model	20° F		11.1° C		25° F		13.9° C		30° F		16.7° C		35° F		19.4° C	
	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop	Flow Rate	Pres Drop
	GPM	Ft	$\Delta L/s$	KPa	GPM	Ft	$\Delta L/s$	KPa	GPM	Ft	$\Delta L/s$	KPa	GPM	Ft	$\Delta L/s$	KPa
420	34.0	0.4	2.1	1.1	—	—	—	—	—	—	—	—	—	—	—	—
530	42.9	0.7	2.7	2.0	34.3	0.4	2.2	1.3	—	—	—	—	—	—	—	—
630	51.0	1.1	3.2	3.2	40.8	0.7	2.6	2.1	34.0	0.5	2.1	1.5	—	—	—	—
735	59.5	1.6	3.8	4.8	47.6	1.1	3.0	3.2	39.7	0.8	2.5	2.3	34.0	0.6	2.1	1.7
840	68.0	2.4	4.3	7.0	54.4	1.6	3.4	4.6	45.4	1.1	2.9	3.3	38.9	0.8	2.5	2.5
950	77.0	3.3	4.9	9.8	61.6	2.2	3.9	6.5	51.3	1.6	3.2	4.6	44.0	1.2	2.8	3.5
1050	85.1	4.4	5.4	12.9	68.0	2.9	4.3	8.6	56.7	2.1	3.6	6.1	48.6	1.6	3.1	4.6
1160	94.0*	5.8	5.9	17.0	75.2	3.8	4.7	11.2	62.6	2.7	4.0	8.0	53.7	2.0	3.4	6.0
1260	—	—	—	—	81.6	4.8	5.2	14.2	68.0	3.4	4.3	10.1	58.3	2.6	3.7	7.6
1370	—	—	—	—	88.8	6.1	5.6	17.9	74.0	4.3	4.7	12.8	63.4	3.3	4.0	9.6
1470	—	—	—	—	95.3*	7.4	6.0	21.8	79.4	5.3	5.0	15.6	68.0	4.0	4.3	11.7
1580	—	—	—	—	—	—	—	—	85.3	6.5	5.4	19.0	73.1	4.8	4.6	14.3
1685	—	—	—	—	—	—	—	—	91.0	7.7	5.7	22.8	78.0	5.8	4.9	17.1
1790	—	—	—	—	—	—	—	—	96.7*	9.2	6.1	27.0	82.9	6.9	5.2	20.3
1900	—	—	—	—	—	—	—	—	—	—	—	—	87.9	8.1	5.5	23.9

* Exceeds manufacturers recommended flow rate, use a greater temperature rise or consult manufacturer. Cupro-nickel heat exchanger should be considered.

SHIPPING WEIGHT

Model	lbs.	kg.
420	534	240
530	555	250
630	590	266
735	630	284
840	680	307
950	742	334
1050	806	363
1160	853	384
1260	887	400
1370	912	411
1470	987	445
1580	1040	469
1685	1078	486
1790	1145	516
1900	1180	535



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In the interest of product improvement, RBI reserves the right to make changes without notice.

A MESTEK COMPANY www.rbiwaterheaters.com