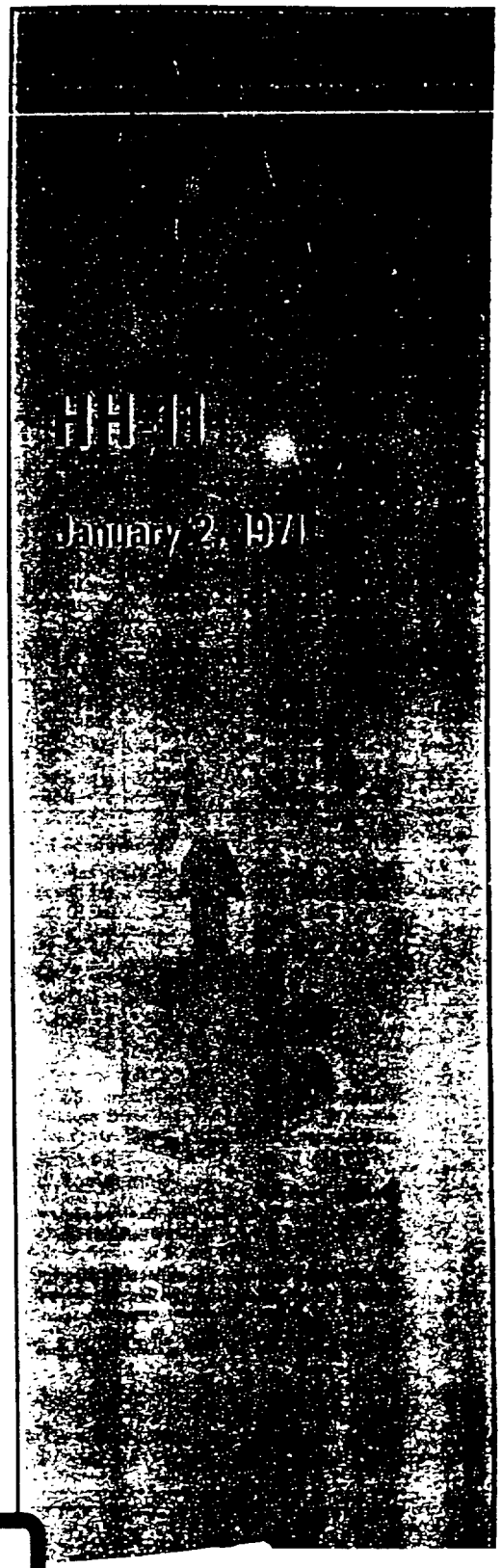
AMERICAN STANDARD



trade price book for AMERICAN-STANDARD Hydronic Heating Equipment*

*Hydronics the science of heating and cooling with water

PRODUCTS		PAGE
Boilers – Cast Iron		
Electric Packaged Boilers		39-40
Gas	Packaged Units	2-6, 9
	Boilers	7, 8, 10-16
	Electronic Control Systems	17
Oil	Packaged Units	18-19
	Boiler Burner Units	20, 22-30, 33
	Flame Retention Boiler-Burner Units	29, 30
	Boilers	21, 22, 28, 31-33, 36, 37
Oil, Gas, Gas-Oil	Pressure Fired Boiler-Burner Units	23-28
Coal	Stoker Fired	36
	Hand Fired	37
Oil Burners and Controls		33, 35
Comfort Computer – Zone Valve Packages		34
Hydronic Assembling Tools		38
Radiation.		
Baseboard Panels	Heatrim	41-44
Baseboard Panels	Radiantrim	45
Radiators	Arco Sunrad	45
Convectors	Multifin	46-48
	Arco	49
	Cabinet Extras	50
Terms		56
Gr[illegible]nformation		51
Repair Parts Discounts		51
Memorandum		52-55

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PLAINTIFF'S EXHIBIT

ASI-359

01856

GPMX PACKAGED GAS BOILERS

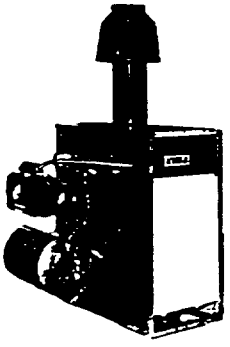
Completely factory assembled and pre-wired.
Two-toned brown and beige jacket encloses all controls.
Regularly supplied for 115 volt 60 cycle power supply with 24 volt system; self energizing controls when specified at no extra charge.
Built-in purge valve—Patent applied for.
Built-in air separator, in left-hand end section.
Intermittent circulator operation.
Design certified by A. G. A. for combustible floor and closet installations.
Cast iron drilled port burners are standard for propane gas — optional for natural gas at 10% reduction of rating as indicated by model number suffix R.
Tested and equipped for 30 lbs. water working pressure.
Ratings shown are for installation at sea level and up to 2,000 feet.

WATER — for natural gas — 100% shut-off

packaged boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price with standard equipment	approx. shipping weight	chimney size: inside diam. in.	chimney size: height feet
GPMX-3	66	52.8	46.1	307	$310.00	197	4	10
GPMX-4	99	79.2	68.7	458	339.00	240	5	10
GPMX-5	132	105.6	92.2	615	387.00	284	5	10
GPMX-6	165	132.0	114 8	765	442.00	335	6	10
GPMX-7	198	158.4	137.4	916	496.00	381	7	10
GPMX-8	231	184.8	160.9	1073	550.00	428	7	10

WATER — for propane gas — 100% shut-off

GPMX-3R	60	48	41.7	278	$310.00	197	4	10
GPMX-4R	90	72	62.6	417	339.00	240	5	10
GPMX-5R	120	96	83.5	557	387.00	284	5	10
GPMX-6R	150	120	104.3	695	442.00	335	6	10
GPMX-7R	180	144	125.2	835	496.00	381	7	10
GPMX-8R	210	168	146.1	974	550.00	428	7	10



Ordering Examples:

1 Packaged boiler with standard equipment:
  1 GPMX-6 boiler with 24 volt controls
  Nat. gas 1000 Btu. .6 sg

2 Packaged boiler with optional equipment:
  1 GPMX 7R boiler with 24 volt controls for constant circulator operation
  Nat. gas. 1000 Btu. .6 sg
  1 conversion kit from natural to propane gas

Standard Equipment

V81 series manifold gas valve includes main operator, manual shut-off, pilot filter, pressure regulator (except for propane gas) and Pilotstat.

1¼" Circulator with Piping	Draft Hood	Expansion Tank
Drain valve	Wiring Harness	Auto Air Vent
ASME relief valve, 30 lb.	Purge Valve	Automatic Fill Valve

Specify 24 Volt . . . or . . . Specify Self Energizing	
T822D thermostat	T822D thermostat
L4080D limit control	L8148G limit and circulator relay (40VA)
R8226B transformer (40VA) and circulator relay	

Note: Boiler is shipped with jacket, all controls, circulator, main burners and manifold controls and piping factory installed and wired. Purge valve, air vent and expansion tank installed. Relief valve and thermostat fastened inside boiler crate. Draft hood shipped separately.

Optional Equipment

Optional constant circulation (24 V) L4081B limit and reverse acting circulator controls with AT20D transformer instead of L4080 and R8226B. Furnished at no additional charge.

Optional constant circulation (S.E.) L4081B limit and reverse acting circulator control and TS822A thermostat instead of L8148G and T822D thermostat. Furnished at no additional charge.

Conversion Kits: Boilers must be specified with suffix letter R. Reduced propane ratings apply.

Natural to Propane gas	▼ Trade Price $6.50
Propane to Natural gas	▼ Trade Price $6.50

Zone valve packages are available for water boilers. For details and prices, see page 34

GPM PACKAGED GAS BOILERS

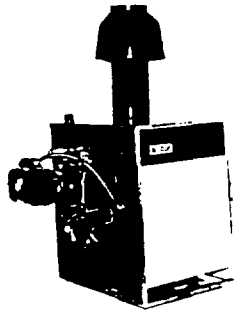
Completely factory assembled and pre-wired.
Two-toned brown and beige jacket encloses all controls.
Regularly supplied for 110 volt 60 cycle power supply with 24 volt system; self energizing controls when specified at no extra charge.
Built-in purge valve—Patent applied for.
Built-in air separator, in left-hand end section.
Intermittent circulator operation.
Design certified by A. G. A. for combustible floor and closet installations.
Cast iron drilled port burners are standard equipment for natural gas.
Ribbon burners are standard for Propane gas — optional for natural gas at 10% reduction of rating as indicated by model number suffix R.
Tested and equipped for 30 lbs. water working pressure.
Ratings shown are for installation at sea level and up to 2,000 feet.

WATER—for natural gas—100% shut-off

packaged boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	net rating sq ft water	▼Trade Price with standard equipment	approx shipping weight	chimney size inside diam. in	chimney size height feet
GPM-3	66	52.8	46.1	307	$287.00	200	4	10
GPM-4	99	79.2	68.7	458	317.00	240	5	10
GPM-5	132	105.6	92.2	615	366.00	285	5	10
GPM-6	165	132.0	114.8	765	421.00	335	6	10
GPM-7	198	158.4	137.4	916	475.00	385	7	10
GPM-8	231	184.8	160.9	1073	529.00	430	7	10

WATER—for propane gas—100% shut-off

GPM-3R	60	48	41.7	278	$287.00	200	4	10
GPM-4R	90	72	62.6	417	317.00	240	5	10
GPM-5R	120	96	83.5	557	366.00	285	5	10
GPM-6R	150	120	104.3	695	421.00	335	6	10
GPM-7R	180	144	125.2	835	475.00	385	7	10
GPM-8R	210	168	146.1	974	529.00	430	7	10



Ordering Examples:
1 Packaged boiler with standard equipment:
1 GPM 5 boiler with 24 volt controls
Nat gas, 1000 Btu, 6 sg
2 Packaged boiler with optional equipment:
1 GPM-3R boiler with self-energizing controls for constant circulator operation
Propane gas

Standard Equipment

V81 series manifold gas valve includes main operator, manual shut-off, pilot filter, pressure regulator (except for Propane gas) and Pilotstat.

1¼" Circulator with Piping
Drain valve
ASME relief valve, 30 lb.
Draft Hood
Wiring Harness
Purge Valve

Specify 24 Volt . . . or . . . Specify Self Energizing

T822D thermostat
L4080D limit control
R8226B transformer (40VA) and circulator relay

T822D thermostat
L8148G limit and circulator relay (40VA)

Note: Boiler is shipped with jacket, all controls, circulator, main burners and manifold controls and piping factory installed and wired. Relief valve and Thermostat fastened inside boiler crate. Draft hood shipped separately.

Optional Equipment

Optional constant circulation (24 V) L4081B limit and reverse acting circulator controls with AT20D transformer instead of L4080 and R8226B Furnished at no additional charge.

Optional constant circulation (S.E.) L4081B limit and reverse acting circulator control and TS822A thermostat instead of L8148G and T822D thermostat Furnished at no additional charge

Conversion Kits: Boilers must be specified with suffix letter R. Reduced Propane ratings apply

Natural to Propane gas	$6.50
Propane to Natural gas	$6.50

Zone valve packages are available for water boilers. For details and prices, see page 34

▼ See page 56

G-2 PACKAGED GAS BOILERS

Fully packed, pre-wired, and equipped with controls for forced circulation, the G-2 is a quality, time-proven cast iron gas fired boiler available with and without tankless heater for domestic water requirements.

This modern deluxe jacketed boiler features the patented "Eliminaire" (cast-in air separator in the left end section) and the distinctive American-Standard brown and beige jacket color combination to dress up any basement or utility room.

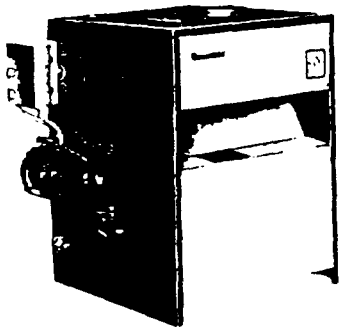
The boiler is tested and equipped for 30 lbs. water working pressure and is regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Self-energizing controls are available without extra cost.

Ratings shown are for installation at sea level and up to 2,000 feet.

WATER—*for natural and propane gases*—100% shut-off

packaged boiler number	A.G.A. input Mbh	A.G.A. output Mbh	tankless heater number	▲ I=W=H rating	net I=B=R rating Mbh	net rating sq ft water	▼Trade Price with standard equipment	approx. shipping weight	chimney size: inside diam. in.	chimney size: height feet
Packaged boilers with factory installed tankless heater										
G-24-DPT	90	72	218	2½	62.6	417	**$466.00**	416	5	10
G-25-DPT	120	96	222	3	83.5	556	**521.00**	481	5	10
G-26-DPT	150	120	222	3¼	104.3	695	**573.00**	551	6	10
G-27-DPT	180	144	222	3½	125.2	834	**620.00**	620	6	10
Packaged boilers less heater										
G-23-DP	60	48			41.7	278	**$367.00**	333	4	10
G-24-DP	90	72			62.6	417	**431.00**	403	5	10
G-25-DP	120	96			83.5	556	**482.00**	472	5	10
G-26-DP	150	120			104.3	695	**534.00**	542	6	10
G-27-DP	180	144			125.2	834	**581.00**	603	6	10

▲Gallons of water per minute heated from 40F to 140F with 200F boiler water temperature.



Standard equipment

V-81 Series manifold gas valve including main operator, manual shut-off valve, pilot filter, pressure regulator (except Propane gas) and Pilotstat

1¼" Circulator with piping
ASME relief valve
Draft hood (for G-23 only, shipped in separate carton)
Pressure and temperature gauge
Wiring harness
AT20D transformer (24V., less heater boilers only)

Additional standard equipment for boilers with heater

Tankless heater as listed above
T822D (24V.) thermostat
L8124E (24V.) or L8124B (S.E.) triple Aquastat relay

Additional standard equipment for boilers less heater

T822D (24V.) or TS822A (S.E.) thermostat
L4081B (24V. and S.E.) combination high limit and circulator control
Note: Left hand end section less tankless heater opening

Note: Shipped with jacket, all controls (except thermostat), circulator and piping, main burners and manifold controls and piping factory installed and wired. Thermostat, manual main gas and pilot gas shut-off valves and relief valve shipped in accessory box fastened inside boiler crate.

Optional equipment

Self-energizing controls (consist of VS81 Series gas valve, TS822A thermostat, Q313 Thermopile Generator and limit or combination control as noted above), available when specified on order — no charge

L8148E (24V.) or L8148G (S.E.) combination limit/relay in lieu of L4081B furnished on G-2 DP boilers — no charge

Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit":
order G-23 thru G-27 ▼Trade Price $5.70

Floor shield for combustible flooring. Add suffix letter "C" to boiler number — add $3.30

Note: In areas where manual opening feature is desired, G-2 boilers are furnished with self-energizing controls as listed above.

Zone valve packages are available for water boilers. For details and prices, see page 34

Ordering Examples:

1. Packaged boiler less heater with standard equipment.
   1 G-24-DP boiler
   Nat. gas, 1000 Btu, .6 sg.
2. Packaged boiler with factory installed heater with optional equipment:
   1 G-26-DPT boiler with ribbon burners and Nat. to Propane conversion kit
   Nat. gas, 1000 Btu, .6 sg

▼ See page 56

G-2 PACKAGED GAS BOILERS

For steam installation on new work or modernization, the G-2 Packaged Steam boiler is available with either Flush or Deluxe jacket in the smart and attractive brown and beige combination that labels it an American-Standard top performing cast iron boiler.

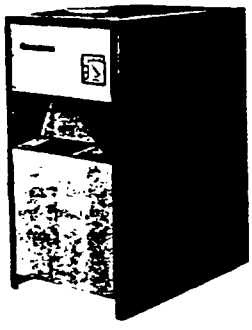
This model is factory assembled and pre-wired for 115 volt, 60 cycle power supply with 24 volt control system. Where required, self-energizing controls are furnished without extra charge.

Ratings shown are for installations at sea level and up to 2,000 feet.

STEAM—for natural and propane gases—100% shut-off

packaged boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating		Trade Price ▼ with standard equipment		approx. shipping weight	chimney size	
			Mbh	sq ft	flush jacket	deluxe jacket		inside diam. in.	height feet
G-23-SP*	60	48	36	150	$308.00	$324.00	310	4	10
G-24-SP*	90	72	54	225	373.00	389.00	376	5	10
G-25-SP*	120	96	72	300	428.00	444.00	443	5	10
G-26-SP*	150	120	90	375	481.00	497.00	518	6	10
G-27-SP*	180	144	108	450	527.00	543.00	581	6	10

* Add suffix letter "F" for flush or "D" for deluxe jacket



Ordering Examples:

1. Packaged boiler with standard equipment:
   1 G-26-SPD boiler
   Nat. gas, 1000 Btu, 6 sg.
2. Packaged boiler with optional equipment.
   1 G-24-SPD boiler with self-energizing controls
   Nat. gas, 1000 Btu, .6 sg.

Standard equipment

V81 Series manifold gas valve including main operator, manual shut-off valve, pilot filter, pressure regulator (except Propane gas) and Pilotstat.

- No. 67-GAR (24V. and S.E.) low water cut-off
- Gauge glass with trimmings
- Draft hood (for G-23-D and G-23-F thru G-27-F, shipped in separate carton)
- T822D (24V.) or TS822A (S.E.) thermostat
- PA404A (24V. and S.E.) pressure limit control
- AT20D transformer (except S.E.)
- ASME safety valve
- Steam gauge
- Floor pan and radiation shield

Note: Shipped with jacket, all controls (except those noted below), main burners and manifold controls factory installed and wired. Thermostat, low water cut-off, manual main and pilot gas shut-off valves (when required), safety valve and steam limit control shipped in accessory box fastened inside boiler crate.

Optional equipment

Self-energizing controls (consist of VS81 Series gas valve; Q313 Thermopile Generator; thermostat and limit control as noted above) available when specified on order — no charge

No. 101-24V. electric water feeder is available for addition to the No. 67-GAR to provide a low water cut-off and feeder combination control — add $55.80

Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit".

G-23 thru G-27 — Trade Price $5.70

Note: In areas where manual opening feature is desired, G-2 boilers are furnished with self-energizing controls as listed above.

For Additional Optional Equipment, See page 15.

G-2 PACKAGED ALL-PURPOSE GAS BOILERS

Versatile and packed with pluses. Can be used for forced circulation or gravity installations. Completely factory assembled, pre-wired and crated with Deluxe brown and beige style leading jacket. Patented "Eliminaire" ends air problems.

Tested and equipped for 30 lbs. water working pressure and regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Self-energizing controls available at no added charge.

Ratings shown are for installation at sea level and up to 2,000 feet.

WATER—for natural and propane gases—100% shut-off

packaged boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price with standard equipment less thermostat	approx. shipping weight	chimney size	
							inside diam. in.	height feet
G-23-DPG	60	48	41.7	278	$269.00	307	4	10
G-24-DPG	90	72	62.6	417	335.00	373	5	10
G-25-DPG	120	96	83.5	556	393.00	438	5	10
G-26-DPG	150	120	104.3	695	447.00	511	6	10
G-27-DPG	180	144	125.2	834	494.00	574	6	10



Ordering Examples:

1. Packaged all-purpose boiler with standard equipment:
   1 G-25-DPG boiler
   Nat. gas, 1000 Btu, .6 sg.
2. Packaged all-purpose boiler with optional equipment:
   1 G-26-DPG boiler
   with self-energizing controls
   Nat. gas, 1040 Btu, 65 sg.

Standard equipment

V81 Series manifold gas valve including main operator, manual shut-off valve, pilot filter, pressure regulator (except Propane gas) and Pilotstat.

L4080B (24V. and S.E.) immersion limit control
ASME relief valve
Pressure and temperature gauge
AT20D transformer (except S.E.)
Draft hood (for G-23-DPG only shipped in separate carton)

Note: Shipped with all controls, main burners and manifold controls factory installed and wired. Manual main gas and pilot gas shut-off valves (when required) and relief valve shipped in accessory box fastened inside boiler crate.

Optional equipment

Self-energizing controls (consist of VS81 Series gas valve; Q313 Thermopile Generator and limit control as noted above) available when specified on order — no charge

Natural to Propane gas conversion kits. Order boiler with "ribbon burners" and "Natural to Propane conversion kit": ▼ Trade Price $5.70

Note: In areas where manual opening feature is desired, G-2 boilers are furnished with self-energizing controls as listed above.

Thermostats for 24V. and S.E. control systems are available. For prices see page 35.

Zone valve packages are available for water boilers. For details and prices, see page 34.

G-2 NON-PACKAGED ALL-PURPOSE GAS BOILERS

As a water boiler, this model is available with or without tankless coil for domestic water needs. With steam trim it is a top notch modernization item. Two jacket styles—Flush or Deluxe—this line is available in nine (9) sizes with factory assembled sections.

Featuring the patented "Eliminaire" cast-in air separator in left end section, the boiler is tested and equipped for 30 lbs. water working pressure, 15 lbs. steam and is regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Self-energizing controls are available without extra charge.

Ratings shown are for installation at sea level and up to 2,000 feet.

WATER—Natural and Propane Gases—(Available with factory installed Tankless heater, see options, pages 15 & 16) —100% shut-off.

boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price with standard equipment less thermostat		approx. shipping weight	chimney size	
					flush jacket	deluxe jacket		inside diam. in.	height feet
G-23-*W	60	48	41.7	278	$242.00	$258.00	295	4	10
G-24-*W(T)	90	72	62.6	417	307.00	323.00	353	5	10
G-25-*W(T)	120	96	83.5	556	366.00	382.00	426	5	10
G-26-*W(T)	150	120	104.3	695	420.00	436.00	500	6	10
G-27-*W(T)	180	144	125.2	834	466.00	482.00	566	6	10
G-28-*W(T)	210	168	146.1	974	520.00	536.00	630	7	10
G-29-*W(T)	240	192	167.0	1113	573.00	589.00	699	7	10
G-210-*W(T)	270	216	187.8	1252	620.00	636.00	790	7	10
G-211-*W(T)	300	240	208.7	1391	673.00	689.00	863	7	10

*Substitute letter "F" for flush or "D" for deluxe jacket. Suffix "T" denotes forced circulation boiler equipped with factory installed tankless heater (see page 16 for added charge).

STEAM—Natural and Propane Gases—100% shut-off.

boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating		▼ Trade Price with standard equipment less thermostat		approx. shipping weight	chimney size	
			Mbh	sq ft	flush jacket	deluxe jacket		inside diam. in.	height feet
G-23-*S	60	48	36	150	$285.00	$301.00	310	4	10
G-24-*S	90	72	54	225	351.00	367.00	368	5	10
G-25-*S	120	96	72	300	409.00	425.00	442	5	10
G-26-*S	150	120	90	375	463.00	479.00	517	6	10
G-27-*S	180	144	108	450	509.00	525.00	583	6	10
G-28-*S	210	168	126	525	564.00	580.00	648	7	10
G-29-*S	240	192	144	600	616.00	632.00	718	7	10
G-210-*S	270	216	162	675	663.00	679.00	809	7	10
G-211-*S	300	240	180	750	716.00	732.00	883	7	10

*Substitute letter "F" for flush or "D" for deluxe jacket.



Ordering Examples:

1. Non-packaged all-purpose water boiler with standard equipment and flush jacket:
   1 G-27-FW boiler
   Nat. gas, 1000 Btu, .6 sg.
2. Non-packaged all-purpose water boiler with optional equipment and deluxe jacket:
   1 G-210-DWT boiler
   with (1) No. 232 tankless heater installed Nat. gas, 1000 Btu, .6 sg

For Other Optional Equipment, See page 15.

Standard Equipment

V81 Series manifold gas valve including main operator, manual shut-off valve, pilot filter, pressure regulator (except Propane gas) and Pilotstat.

AT20D Transformer (except S.E.)
Drain valve
Draft hood (for G-23-D and all flush jacketed boilers shipped in separate carton)

Additional standard equipment

Water boilers

ASME relief valve
Pressure and temperature gauge
L4080 (24V and S.E.) Aquastat limit control

Note:
Zone valve packages are available for water boilers. For details and prices, see page 34.

Steam boilers

ASME safety valve
Steam gauge
PA404A (24V. and S.E.) pressure limit control
No. 67-GAR (24V. and S.E.) low water cut-off
Gauge glass with trimmings
Floor pan and radiation shield

Optional Equipment

Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit":

G-23 thru G-27 — ▼ Trade Price $5.70
G-28 thru G-211 — ▼ Trade Price $7.70

G-40 GAS BOILERS

This fine boiler is ideal for installation in larger residences, small apartments, and commercial buildings. Has deluxe jacket with built in draft hood. Note that tankless heaters are available for both steam and water. Features "Eliminaire" cast in the left end section.

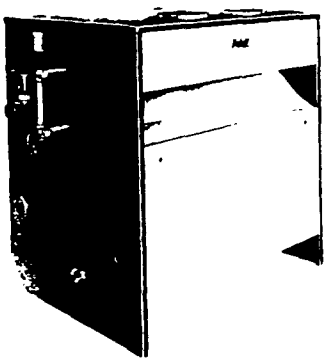
Regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Self-energizing controls optional. Tested and equipped for 50 lbs. water working pressure with 80 lbs. water pressure optional at extra cost. Tested ratings shown are for installation at sea level and up to 2,000 ft.

WATER — For Natural and Propane Gases — 100% Shut-Off. For Built-In Water Heaters, see page 16.

boiler number	A G A input Mbh	A G A output Mbh	net I=B=R rating Mbh	net rating sq. ft. water	▼ Trade Price with standard equipment less thermostat	approx shipping weight	chimney size: inside diam. in.	chimney size: height feet
G-403-W	150	120	104 3	695	$ 404 00	827	8	15
G-404-W	225	180	156 5	1043	513.00	998	8	15
G-405-W	300	240	208 7	1391	622.00	1162	8	15
G-406-W	375	300	260 9	1739	737.00	1349	10	15
G-407-W	450	360	313 0	2086	852.00	1517	10	15
G-408-W	525	420	365 8	2434	939.00	1686	10	15
G-409-W	600	480	417 4	2782	1048.00	1856	10	15
G-4010-W	675	540	469 6	3130	1158.00	2026	12	15
G-4011-W	750	600	521 8	3479	1268.00	2195	12	15
G-4012-W	825	660	574 0	3827	1380.00	2364	12	15
G-4013-W	900	720	626 2	4175	1490.00	2533	12	15
G-4014-W	975	780	678 4	4523	1598 00	2702	15	15

STEAM — For Natural and Propane Gases — 100% Shut-Off. For Built-In Water Heaters, see page 16.

boiler number	A G A. input Mbh	A G A output Mbh	net I=B=R rating: Mbh	net I=B=R rating: sq. ft.	▼ Trade Price with standard equipment less thermostat	approx shipping weight	chimney size: inside diam. in.	chimney size: height feet
G-403-S	150	120	90 0	375	$ 447.00	858	8	15
G-404-S	225	180	135 0	563	556.00	1027	8	15
G-405-S	300	240	180 0	750	665.00	1195	8	15
G-406-S	375	300	225 1	938	780.00	1370	10	15
G-407-S	450	360	270 1	1125	895.00	1544	10	15
G-408-S	525	420	315 1	1313	982 00	1713	10	15
G-409-S	600	480	360 1	1500	1091.00	1880	10	15
G-4010-S	675	540	405 1	1688	1201.00	2050	12	15
G-4011-S	750	600	450 0	1875	1311.00	2219	12	15
G-4012-S	825	660	495 2	2063	1423 00	2388	12	15
G-4013-S	900	720	540 0	2250	1533.00	2557	12	15
G-4014-S	975	780	585 1	2438	1641.00	2726	15	15



Ordering Examples:

1. Water boiler with standard equipment:
   1 G-406-W boiler
   Nat. gas, 1000 Btu, 6 sg
2. Steam boiler with optional equipment:
   1 G-409-ST
   1 No. 226 tankless heater with controls
   Nat. gas, 1000 Btu, 6 sg

Standard equipment

V-8139A Combination Gas Valve: G-403 and G-404 for Natural Gas
V-8139B Combination Gas Valve: G-403 thru G-407 for Propane Gas
G-50AAG Combination Gas Valve: G405 and G-406 for Natural Gas
V-88A Diaphragm Gas Valve: G-407 thru G-4014 for Natural Gas
G-408 thru G-4014 for Propane Gas

Gas pressure regulator (except propane gas)

Manual main gas shut-off valve

Manual pilot gas shut-off valve where diaphragm gas valve is standard.

AT30 Transformer (except S.E.)

L62GB (24V.) or CS591A (S E.) combination pilot switch and valve with auxiliary pilot valves (100% shut-off)

Drain valve

Water heater opening cover plates

Additional standard equipment

Water	Steam
ASME relief valve	ASME safety valve
Pressure and temperature gauge	Steam gauge
L4006A (24V. and S E.) immersion [illegible] control)	P4004A (24V. and S E.) pressure [illegible] control)
Zone valve packages are available for water boilers. For details and prices, see page 34.	Gauge glass with trimmings
	No. 67-GAR (24V. and S E.) low water cut-off

Optional equipment

(See pages 15, 16 and 17)

GWP PACKAGED GAS BOILER

(Single Boiler Installation)

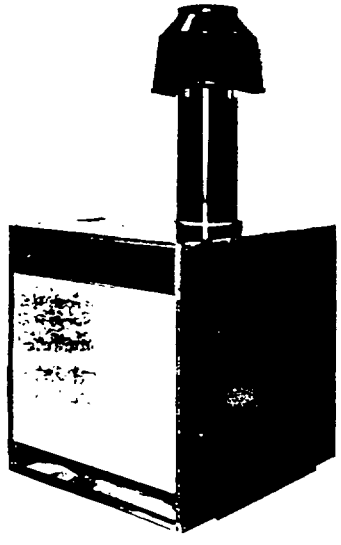
The GWP boiler package offers a ready-to-install heating plant for large residences, small apartment and commercial buildings. Designed for forced circulation only, the GWP includes factory mounted and wired controls. Burners are installed and deluxe jacket is factory mounted. Relief valve, temperature-pressure gauge and draft hood are shipped separately. The patented "Eliminaire" is also included.

Boiler is tested and equipped for 50 lbs. working pressure and regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Self-energizing controls are available at no additional cost.

Ratings shown are for installations at sea level and up to 2000 ft.

WATER—100% shut-off—Natural and Propane Gas

packaged boiler number*	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R Mbh	chimney size: inside dia. in.	chimney size: height feet	approx. shipping weight	▼ Trade Price with standard equipment less thermostat
GWP-5	264	211.2	183.5	7	15	613	$ 430.00
GWP-6	330	264.0	229.6	8	15	716	520.00
GWP-7	396	316.8	275.7	8	15	823	620.00



Standard equipment

- Combination automatic gas valve
- Gas pressure regulator (except propane)
- Manual main gas shut-off valve
- Manual pilot gas shut-off valve
- AT-20D transformer (except S.E.)
- Pilot Valve & Switch
- Drain Valve
- ASME Relief Valve
- Pressure-Temperature Gauge
- Deluxe Jacket
- L4080D Immersion Limit Control
- Draft Hood
- Drilled Port Burners are standard for natural gas.
- Ribbon Burners are standard for propane gas and optional for natural gas.

Optional equipment

Self Energizing controls — No Price Add

Zone Valve Packages are available (for details and prices see page 34)

* Add suffix "R" to model number if ribbon burners are desired.
Example: GWP-5R

Optional constant circulation (24 volt) L4081B limit and reverse acting circulator controls instead of L4080 limit control. Added Trade Price **$10.30**

▼ See page 56

GWM GAS MODULAR BOILER HOOK-UP

(Modular Boiler Installations)

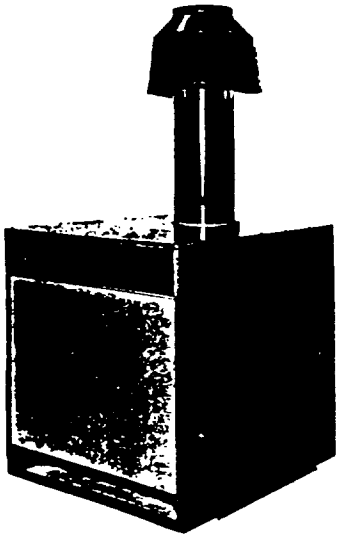
The GWM Modular Boiler Hook-up is a combination or multiple of five, six or seven section GWM boiler modules. Each module has factory assembled sections with burners, gas manifold, and automatic gas valve mounted. Deluxe jacket, controls and draft hood are shipped separately. The patented "Eliminaire" is a standard feature.

Factory fabricated water manifolds are available as listed under optional equipment.

GWM Modular Boilers are furnished for 115 volt, 60 cycle power supply with 24 volt control system. (Self-energizing controls are not available). Boilers are tested and equipped for 50 PSIG working pressure. Indicated ratings are for installation at sea level and up to 2000 ft. elevation.

GWM BOILER MODULES — Natural and Propane Gas: 100% Shut-Off.

module boiler number*	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	approx. shipping weights lbs.	▼ Trade Price with standard equipment less thermostat
GWM-5	264	211.2	183.5	629	$418.00
GWM-6	330	264.0	229.6	735	508.00
GWM-7	396	316.8	275.7	846	608.00



Standard equipment

- Combination automatic Gas Valve
- Gas pressure regulator (except propane)
- Manual Main Gas shut-off valve
- Manual pilot gas shut-off valve
- Transformer Relay
- Pilot valve and switch
- Drain Valve
- ASME Relief Valve(s) as required
- Pressure-Temperature Gauge as required
- Deluxe Jacket
- L4080D Immersion Limit Control
- Draft Hood
- Drilled Port Burners are standard for natural gas.
- Ribbon burners are standard for propane gas and optional for natural gas.

Optional equipment

1. Factory fabricated Water Manifold for Primary/Secondary circulation. Includes interconnecting supply piping (Boiler to manifold). Interconnecting return piping and circulator not included.
   ..... Trade Price add per module $41.00
2. Factory fabricated Water Manifold for Parallel Boiler Hook-up. Includes interconnecting supply and return piping (boiler to manifold).
   ..... Trade Price add per module $82.00
3. Electronic Control Panel Systems — For application and details, contact American-Standard.

*Add suffix "R" to model number if ribbon burners are desired.

GWM GAS MODULAR BOILER HOOK-UP

(Modular Boiler Installations)

The following boiler units in 66,000 BTU input increments are achieved with module boiler combinations:

MODULAR BOILER HOOK-UPS – Natural and Propane Gas - 100% Shut-Off.

unit number	modular composition			gross input Mbh	gross output Mbh	net output Mbh	approx. shipping weight	▼ Trade Price with standard equipment less thermostat
	5 sect.	6 sect.	7 sect.					
GWM-528	2	—	—	528	422.4	367.0	1258	$ 820.00
GWM-594	1	1	—	594	475.2	413.9	1364	910.00
GWM-660	—	2	—	660	528.0	459.1	1470	1000.00
GWM-726	—	1	1	726	580.8	504.3	1581	1100.00
GWM-792	—	—	2	792	633.6	551.3	1692	1200.00
GWM-858	2	1	—	858	686.4	596.5	1993	1312.00
GWM-924	1	2	—	924	739.2	643.5	2099	1402.00
GWM-990	—	3	—	990	792.0	688.7	2205	1492.00
GWM-1056	—	2	1	1056	844.8	733.9	2316	1592.00
GWM-1122	—	1	2	1122	897.6	780.9	2427	1692.00
GWM-1188	—	—	3	1188	950.4	826.1	2538	1792.00
GWM-1254	1	3	—	1254	1003.2	873.0	2834	1894.00
GWM-1320	—	4	—	1320	1056.0	918.3	2940	1984.00
GWM-1386	—	3	1	1386	1108.8	963.5	3051	2084.00
GWM-1452	—	2	2	1452	1161.6	1010.4	3162	2184.00
GWM-1518	—	1	3	1518	1214.4	1055.7	3273	2284.00
GWM-1584	—	—	4	1584	1267.2	1102.6	3384	2384.00
GWM-1650	—	5	—	1650	1320.0	1147.8	3675	2492.00
GWM-1716	—	4	1	1716	1372.8	1193.0	3786	2592.00
GWM-1782	—	3	2	1782	1425.6	1240.0	3897	2692.00
GWM-1848	—	2	3	1848	1478.4	1285.2	4008	2792.00
GWM-1914	—	1	4	1914	1531.2	1332.2	4119	2892.00
GWM-1980	—	—	5	1980	1584.0	1376.4	4230	2992.00
GWM-2046	—	5	1	2046	1636.0	1422.6	4521	3084.00
GWM-2112	—	4	2	2112	1689.6	1467.8	4632	3184.00
GWM-2178	—	3	3	2178	1742.4	1516.5	4743	3284.00
GWM-2244	—	2	4	2244	1795.2	1561.7	4854	3384.00
GWM-2310	—	1	5	2310	1848.0	1607.0	4965	3484.00
GWM-2376	—	—	6	2376	1900.8	1652.2	5076	3584.00
GWM-2442	—	5	2	2442	1953.6	1697.4	5367	3676.00
GWM-2508	—	4	3	2508	2006.4	1746.1	5478	3776.00
GWM-2574	—	3	4	2574	2059.2	1791.3	5589	3876.00
GWM-2640	—	2	5	2640	2112.0	1836.5	5700	3976.00
GWM-2706	—	1	6	2706	2164.8	1881.7	5811	4076.00
GWM-2772	—	—	7	2772	2217.6	1927.0	5922	4176.00
GWM-2838	—	5	3	2838	2270 4	1975.7	6213	4268.00
GWM-2904	—	4	4	2904	2323.2	2020.9	6324	4368.00
GWM-2970	—	3	5	2970	2376.0	2066.1	6435	4468.00
GWM-3036	—	2	6	3036	2428.8	2111.3	6546	4568.00
GWM-3102	—	1	7	3102	2481.6	2156.5	6657	4668.00
GWM-3168 and upward	—	—	8	3168	2534 4	2205.2	6768	4768.00

Modular Operating Control Package Options

1. Four stage immersion type operating control. (one required for up to 4 modules) . . Trade price add per control $70.00
2. Immersion type operating controls with individual outdoor resets. . . . . Trade price add per module $47.00
3. Eight stage boiler sequencing control package with outdoor reset. (one required for up to 8 modules) Trade price add per control $270.00

▼ See page 56

01866

GW NON-PACKAGED GAS WATER

(Single or Modular Boiler Installations)

The GW Boiler is a non-packaged boiler available in three sizes designed for forced circulation only. Factory assembled sections are standard with jackets, burners and manifolds shipped separately. Included for field installation are a relief valve, temperature-pressure gauge, and draft hood. The patented "Eliminaire" is also included.

Installed individually or in modular groups, the GW boiler is ideal for renovation work as well as new construction.

Each boiler is tested and equipped for 50 PSIG working pressure and regularly furnished for 115 volt, 60 cycle power supply with 24 volt controls. Self-energizing controls are available at no additional cost.

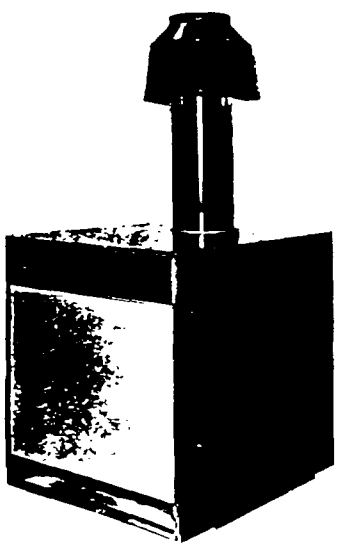
Ratings shown are for installations at sea level and up to 2000 ft. elevation.

INDIVIDUAL BOILERS — WATER — 100% shut-off — Natural and Propane Gas

boiler number*	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R Mbh	chimney size: inside dia. in.	chimney size: height feet	approx. shipping weight	▼ Trade Price with standard equipment less thermostat
GW-8	462	369.4	321.7	9	15	938	$ 670.00
GW-9	528	422.4	367.0	10	15	1052	725.00
GW-10	594	475.2	413.9	10	15	1177	780.00

MODULAR BOILERS — WATER — 100% shut-off — Natural and Propane Gas

unit number	modular composition: 8 sect.	9 sect.	10 sect.	gross input Mbh	gross output Mbh	net output Mbh	approx shipping weights	▼ Trade Price with standard equipment less thermostat
GW-924	2	0	0	924	739	644	1876	$ 1340.00
GW-990	1	1	0	990	792	689	1990	1395.00
GW-1056	0	2	0	1056	845	734	2104	1450.00
GW-1122	0	1	1	1122	879	781	2229	1505.00
GW-1188	0	0	2	1188	950	826	2354	1560.00
GW-1386	3	0	0	1386	1108	964	2814	2010.00
GW-1452	2	1	0	1452	1162	1010	2928	2065.00
GW-1518	1	2	0	1518	1214	1056	3042	2120.00
GW-1584	0	3	0	1584	1267	1103	3156	2175.00
GW-1650	0	2	1	1650	1320	1148	3281	2230.00
GW-1716	0	1	2	1716	1373	1193	3406	2285.00
GW-1782	0	0	3	1782	1426	1240	3531	2340.00
GW-1848	4	0	0	1848	1478	1285	3752	2680.00
GW-1914	3	1	0	1914	1531	1332	3866	2735.00
GW-1980	2	2	0	1980	1584	1376	3980	2790.00
GW-2046	1	3	0	2046	1637	1423	4094	2845.00



Standard equipment

- Combination automatic gas valve
- Gas pressure regulator (except propane)
- Manual gas shut-off valve
- Manual pilot gas shut-off valve
- AT-20D Transformer (except SE)
- Pilot Valve and Switch
- Drain Valve
- ASME Relief Valve
- Pressure-Temperature Gauge
- L-4080D Immersion Limit Control
- Deluxe Jacket
- Draft Hood
- Drilled Port Burners are standard for natural gas.
- Ribbon Burners are standard for propane gas and optional at no price add for natural gas.

Optional equipment

Self-energizing controls ..... no price add

Electronic Control Panel System — For application and details, contact American-Standard.

Modular Operating Control Package Options

1. Four stage immersion type operating control (one required for up to 4 modules) . . . . . Trade Price add per control $70.00
2. Immersion type operating controls with individual outdoor resets (one required for each module). . . . Trade Price add per module $47.00
3. Eight stage boiler sequencing control package with outdoor reset (one required for up to 8 modules) . . . Trade Price add per control $270.00

*Add suffix "R" to model number if ribbon burners are desired.

▼ See page 56

01867

G-10 GAS BOILERS

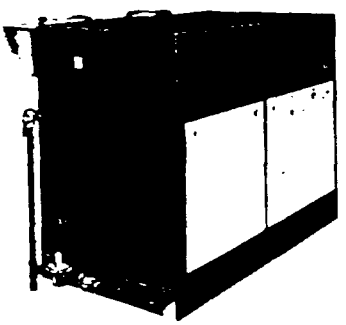
A compact, high capacity boiler for commercial and industrial application. Features single combustion chamber to simplify wiring and controls. Built-in heaters available for storage tank or tankless application. Tested and equipped for 50 lbs. water working pressure with 80 lbs. water working pressure optional at extra cost.

Integral draft hood located at rear of boiler with optional top outlet (except G-1010) available at no extra charge.

WATER — Natural Gas — 100% Shut-Off. For Built-In Water Heaters, see page 16.

boiler number	A.G.A. input Mbh	A.G.A. output Mbh	▲ net I=B=R rating Mbh	I=B=R piping and pick-up factor ▲	net rating sq. ft. water	▼Trade Price with standard equipment less thermostat	approx. shipping weight	chimney size inside diam. in.	chimney size ht. ft.
G-105-W	800	640	556.5	1.15	3710	$1260.00	2905	14	20
G-106-W	1000	800	695.7	1.15	4638	1535.00	3443	14	20
G-107-W	1200	960	834.8	1.15	5565	1807.00	3990	14	20
G-108-W	1400	1120	973.9	1.15	6493	2097.00	4538	16	20
G-109-W	1600	1280	1113.0	1.15	7420	2343.00	5093	16	20
G-1010-W	1800	1440	1252.2	1.15	8348	2593.00	5657	18	20
G-1011-W	2000	1600	1391.3	1.15	9275	2856.00	6231	18	20
G-1012-W	2200	1760	1530.4	1.15	10203	3188.00	6646	20	20
G-1013-W	2400	1920	1669.6	1.15	11131	3581.00	7159	20	20
G-1014-W	2600	2080	1808.7	1.15	12058	3870.00	7679	22	20
G-1015-W	2800	2240	1947.8	1.15	12985	4112.00	8252	22	20
G-1016-W	3000	2400	2087.0	1.15	13913	4366.00	8748	22	30
G-1017-W	3200	2560	2226.1	1.15	14841	4632.00	9244	22	30
G-1018-W	3400	2720	2365.2	1.15	15768	4909.00	9753	24	30
G-1019-W	3600	2880	2504.3	1.15	16695	5198.00	10265	24	30
G-1020-W	3800	3040	2643.5	1.15	17623	5441.00	10801	24	30
G-1021-W	4000	3200	2782.6	1.15	18551	5729.00	11278	26	30
G-1022-W	4200	3360	2921.7	1.15	19478	5983.00	11841	26	30
G-1023-W	4400	3520	3060.9	1.15	20406	6272.00	12351	26	30
G-1024-W	4600	3680	3200.0	1.15	21333	6537.00	12860	26	30
G-1025-W	4800	3840	3339.1	1.15	22261	6780.00	13391	28	30
G-1026-W	5000	4000	3478.3	1.15	23189	7069.00	13884	28	30
G-1027-W	5200	4160	3617.4	1.15	24116	7346.00	14376	28	30
G-1028-W	5400	4320	3756.5	1.15	25043	7543.00	14874	28	30
G-1029-W	5600	4480	3895.7	1.15	25971	7739.00	15378	30	30
G-1030-W	5800	4640	4034.8	1.15	26899	8039.00	15868	30	30
G-1031-W	6000	4800	4173.9	1.15	27826	8282.00	16391	30	30
G-1032-W	6200	4960	4313.0	1.15	28753	8524.00	16898	30	30
G-1033-W	6400	5120	4452.2	1.15	29080	8778.00	17405	30	30

▲ The net I=B=R ratings shown are based on the factors shown in the piping and pickup column. American Standard should be consulted before selecting a boiler for installations having unusual piping and pickup requirements



Standard equipment

V88A gas valve(s)
Gas pressure regulator (except Propane gas)
Manual main gas shut-off valve
Manual pilot gas shut-off valve
AT20D Transformer
Ribbon type main burners
ASME relief valve
Drain valve
Draft hood
L62GB combination pilot switch and valve 817F-11 pilot valves
Pressure and temperature gauge
L4006A immersion limit control

Optional equipment: See pages 15, 16 and 17

Ordering Examples:

1 Water boiler
1 G 1013-W boiler
Nat gas, 1000 Btu 6 sg

G-10 GAS BOILERS — WATER for Propane Gas

Propane Gas Ratings are determined by reducing the Natural ratings above by 10% Example: G-105-W A G.A. input 800 less 10%=720 Mbh Input for Propane Gas Detailed Propane Gas ratings are shown in current Technical Literature Trade Prices. Chimney Sizes and shipping weights remain the same as shown above.

▼ See page 56

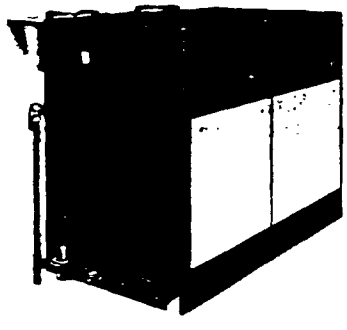
G-10 GAS BOILERS —

This steam boiler is ideal for new work or modernization. Features a deluxe jacket which may be assembled to the boiler after piping has been installed. Integral draft hood located at rear of boiler with optional top outlet (except G1010) available at no extra charge. This boiler is regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system. Ratings shown are for installation at sea level and up to 2,000 ft.

STEAM — For Natural Gas — 100% Shut-Off. For Built-In Water Heaters (G-105S thru G-1014S only) See page 16.

boiler number	A.G.A. input	A.G.A. output	▲ net I=B=R rating		I=B=R piping and pick-up factor ▲	▼Trade Price with standard equipment less thermostat	approx. shipping weight	chimney size	
	Mbh	Mbh	Mbh	sq. ft.				inside diam. in.	ht. ft.
G-105-S	800	640	480.1	2000	1.333	$1304.00	2910	14	20
G-106-S	1000	800	600.1	2501	1.333	1579.00	3453	14	20
G-107-S	1200	960	720.2	3001	1.333	1851.00	4000	14	20
G-108-S	1400	1120	840.2	3501	1.333	2141.00	4548	16	20
G-109-S	1600	1280	962.4	4010	1.330	2387.00	5103	16	20
G-1010-S	1800	1440	1095.1	4563	1.315	2637.00	5667	18	20
G-1011-S	2000	1600	1227.9	5116	1.303	2900.00	6241	18	20
G-1012-S	2200	1760	1361.2	5672	1.293	3232.00	6646	20	20
G-1013-S	2400	1920	1489.5	6206	1.289	3625.00	7159	20	20
G-1014-S	2600	2080	1614.9	6729	1.288	3914.00	7679	22	20
G-1015-S	2800	2240	1739.1	7246	1.288	4156.00	8252	22	20
G-1016-S	3000	2400	1863.4	7764	1.288	4410.00	8748	22	30
G-1017-S	3200	2560	1987.6	8282	1.288	4676.00	9244	22	30
G-1018-S	3400	2720	2111.8	8799	1.288	4953.00	9753	24	30
G-1019-S	3600	2880	2236.0	9317	1.288	5242.00	10265	24	30
G-1020-S	3800	3040	2360.2	9834	1.288	5485.00	10801	24	30
G-1021-S	4000	3200	2484.5	10352	1.288	5773.00	11278	26	30
G-1022-S	4200	3360	2608.7	10870	1.288	6027.00	11841	26	30
G-1023-S	4400	3520	2732.9	11387	1.288	6316.00	12351	26	30
G-1024-S	4600	3680	2857.1	11905	1.288	6581.00	12860	26	30
G-1025-S	4800	3840	2981.4	12422	1.288	6824.00	13391	28	30
G-1026-S	5000	4000	3105.6	12940	1.288	7113.00	13884	28	30
G-1027-S	5200	4160	3229.8	13458	1.288	7390.00	14376	28	30
G-1028-S	5400	4320	3354.0	13975	1.288	7587.00	14874	28	30
G-1029-S	5600	4480	3478.3	14493	1.288	7783.00	15378	30	30
G-1030-S	5800	4640	3602.5	15010	1.288	8083.00	15868	30	30
G-1031-S	6000	4800	3726.7	15528	1.288	8326.00	16391	30	30
G-1032-S	6200	4960	3850.9	16046	1.288	8568.00	16898	30	30
G-1033-S	6400	5120	3975.2	16563	1.288	8822.00	17405	30	30

▲ The net I=B=R ratings shown are based on the factors shown in the piping and pickup column. American Standard should be consulted before selecting a boiler for installations having unusual piping and pickup requirements.



Standard equipment

V88A gas valve(s)
Gas pressure regulator (except propane gas)
Manual main gas shut-off valve
Manual pilot gas shut-off valve
AT30 Transformer
ASME safety valve
Steam gauge
Ribbon type main burners
Drain valve
Draft hood
853-1 combination pilot switch and valve 817F-11 pilot valves
PA404A pressure limit control
Gauge glass with trimmings
No. 67AR Low Water cut-off

Ordering Examples:

Steam boiler with standard equipment
1 G1015-S boiler
Nat gas 1000 Btu 65 sg

Optional equipment

(See pages 15, 16 and 17)

G-10 GAS BOILERS — STEAM for Propane Gas

Propane Gas Ratings are determined by reducing the Natural Gas ratings above by 10%. Example G-105-S A.G.A. Input 800 less 10%=720 Mbh Input for Propane Gas. Detailed Propane Gas ratings are shown in current G-10 Technical Literature Trade Prices Chimney Sizes and shipping weights remain the same as shown above

MISCELLANEOUS OPTIONS – NON-PACKAGED GAS BOILERS

G-2, G-40 AND G-10 BOILERS:

Thermostats are available at Trade Prices shown on page 35.

Side Outlet ASME Steam Safety Valve may be substituted at no additional charge if specified on order to meet local code requirements.

"IS" Equipment: boilers can be furnished for use with Indirect Steam Hot Water Supply Systems. L4006A immersion operating control for use in storage tank is required and will be furnished when specified on order at extra Trade Price as shown on page 35. This control operates gas valves on boiler electrically as required. Shipping weights of gas boilers for hot water supply are same as shown for regular gas boilers.

Low water cut-offs for water boilers: No. 63 cut-off for water working pressures of 50 lbs., or less, available when specified at additional Trade Price of **$42.75**

No. 150 cut-off for water working pressures in excess of 50 lbs. available when specified at additional Trade Price of **$64.25**

G-2 AND G-40 BOILERS:

Self-energizing control: All size G-2 and G-40 for propane gas. All G-2 and G-40 thru G-4010 for natural gas. Equipment includes: S.E. gas valve as required, Q313A Thermopile Generator and a L4006 S.E. limit control (water boilers less heater) or an L8124B Triple Aquastat Relay (water boilers with heater) or a PA404A Pressuretrol (steam boilers less heater). For steam boilers with heater L4006A S.E. immersion operating control will be furnished in addition to the Pressuretrol. Furnished at no additional charge when specified on order. Special thermostat required, for Trade Price, see page 35.

No. 101-24V electric water feeder can be added to the No. 67-GAR low water cut-off regularly furnished with steam boilers to provide low water cut-off and feeder combination at additional Trade Price of **$55.81**

Zone circulator control for water boiler with tankless heater and combination immersion control-relay: use one T822D thermostat and one R845A relay for second and/or third zone. For Trade Prices, see page 35.

Water flow regulators sized for tankless heater involved will be furnished with heater when specified on order to meet local Utility requirement at Trade Price additional charge per heater of **$3.25**

G-40 AND G-10 BOILERS:

No. 47-2 boiler water feeder and cut-off combination is available instead of the 67-AR regularly furnished with G-403 through G-108 steam boilers at additional Trade Price of **$41.60**

No. 51-2 boiler water feeder and cut-off available instead of No. 67-AR regularly furnished with G-109 thru G-1031 steam boilers at additional Trade Price of **$62.70**

Try-cocks and tappings: if desired for steam boiler to meet local code specify on order and add to Trade Price of steam boiler **$4.25**

Boilers tested for 80 lbs. water working pressure: available when specified on order. Add per section to Trade Price of water boiler **$8.00** per section

G-2 BOILERS:

"DW" (Direct Water) equipment: In addition to water boiler standard equipment, page 7, includes pressure gauge, 80 lb. ASME relief valve, L4006A Aquastat for storage tank, tank thermometer, name and rating plate for 80 lbs. water working pressure. Specify boiler with "DW" equipment and add **$16.50** to Trade Price of All-Purpose Water Boiler, page 7.

Floor shield for combustible flooring. Add suffix letter "C" to boiler number and add to Trade Price of boiler **$3.28**

G-40 BOILERS:

Boilers with Tankless Heaters: water (for forced circulation) and steam boilers can be furnished with tankless heaters. Heaters are limited to boiler sizes as shown in ratings table on next page. Specify heater and add suffix "T" to boiler number.

Factory assembled sections: G-403 through G-4014 can be shipped with sections factory assembled when specified on order. Add **$11.00** per section to Trade Price of boiler.

G-10 BOILERS:

Pilot filters for G-10 for natural and mixed gases available at no additional charge when specified on order to meet local utility codes.

G-10 Steam Boiler external water heater tappings in cover plates: maximum size 1¼". Specify number of cover plates with tapping. Added Trade Price per tapping **$4.25**

G-10 Right End Section Steam Trim Tappings for pressure gauge and water column fittings or for auxiliary controls furnished as standard equipment at no additional charge.

Modulating gas valve: the G-10 boiler can be specified with the V6034A/V5034A gas valve for Hi-Lo-off operation. This valve permits adjustment of the Lo-fire operation down to a minimum of 20% of the boiler input. Operation of the valve should be controlled by a SPDT operating control. If desired, specify on order and add to the Trade Price of the boiler with regular equipment the following Trade Prices.

G-105 thru 1018	**$161.50**
G-1019 thru 1033	**$205.00**

Top outlet draft hood (natural gas only); available (except G1010) at no extra charge when specified on order. See current literature for chimney recommendations.

Factory assembled sections: Available thru G-1011. Specify on order. Allow 3 week lead time. Added Trade Price per section **$21.00**

▼ See page 56

G-2 TANKLESS HEATERS

G-2 NON-PACKAGED ALL-PURPOSE BOILER:

Factory installed tankless heaters: When boilers (4 thru 11 section) are to be used for forced circulation. See table below for I=W=H ratings and applicable boiler size. Specify heater, add suffix "T" to boiler number and "factory installed." Add Trade Price shown.

Ratings

boiler number	A.G.A. input Btu/hr.	I=W=H Rating heater 218	heater 222	heater 226	heater 232
G-24	90,000	2½	—	—	—
G-25	120,000	—	3	—	—
G-26	150,000	—	3¼	—	—
G-27	180,000	—	3½	4	—
G-28	210,000	—	3½	4¼	—
G-29	240,000	—	3½	4¼	4½
G-210	270,000	—	3½	4¼	4¾
G-211	300,000	—	3½	4½	5

G-2 PACKAGED AND NON-PACKAGED ALL-PURPOSE BOILERS:

Tankless heaters: When boilers (4 thru 11 section) are to be used for forced circulation I=W=H tankless heaters can be installed in opening used for gravity tapping flange cover. See table for I=W=H ratings and applicable boiler size. Tankless heaters can be ordered shipped separately at the "sold separate" Trade Prices shown below.

▼ Trade Prices

heater number	*factory installed	sold separate
218	$45.00	$24.00
222	49.00	28.00
226	61.00	40.00
232	69.00	48.00

*L8124E for 24 Volt or L8124B for SE. Triple Aquastat Relay furnished with heater (packed in trim box).

Water flow regulator. Specify on order. Added Trade Price $3.25

G-40 TANKLESS HEATERS — STEAM OR FORCED WATER BOILERS

Ratings (Gallons per minute*)

Boiler	HEATER 218		HEATER 222		HEATER 226		HEATER 232		HEATER 445		HEATER 460	
	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water
G-403	3	4	—	—	—	—	—	—	—	—	—	—
G-404	3½	4	4	4½	—	—	—	—	—	—	—	—
G-405	3½	4	4	4½	5½	6	—	—	—	—	—	—
G-406	3½	4	4	4½	5½	6	—	—	—	—	—	—
G-407	3½	4	4	4½	6	6½	7	7½	—	—	—	—
G-408	3½	4	4	4½	6	6½	7½	8	8½	9	—	—
G-409	3½	4	4	4½	6	6½	7½	8	8½	9	—	—
G-4010	3½	4	4	4½	6	6½	7½	8	8½	9	—	—
G-4011	3½	4	4	4½	6	6½	7½	8	8½	9	11	12
G-4012	3½	4	4	4½	6	6½	7½	8	8½	9	12	13
G-4013	3½	4	4	4½	6	6½	7½	8	8½	9	13	14½
G-4014	3½	4	4	4½	6	6½	7½	8	8½	9	13	15½

*Gallons of water per minute raised from 40°F to 140°F with 200°F boiler water temperature.

▼ Trade Prices

HEATER NO.	HEATER WITH CONTROLS		HEATER ONLY
	Water	Steam(1)	Water or Steam
218	$44.00	$38.00	$24.00
222	46.00	42.00	28.00
226	58.00	54.00	40.00
232	66.00	62.00	48.00
445	79.00	75.00	61.00
460	85.00	81.00	67.00

Tankless heaters with controls for water boilers: L8124E combination immersion control-relay packed in trim box in place of standard limit control.

Tankless heaters with controls for steam boilers: L4006A immersion operating control packed in trim box in addition to PA404A pressure limit control.

Water flow regulator. Specify on order. Added Trade Price $3.25

(1) Additional L4006A operating control required for steam boiler-heater combinations shown shaded. Add to above heater w/control Trade Price $14.05

G-10 BOILERS — TANKLESS OR TANK TYPE HEATER

No. 1023 heater is available in any quantity. Specify number required. Trade Price each $33.50

The ratings table on this page shows the ratings attained if more than one heater is connected in parallel.

Copper pipe manifolds, factory assembled for multiple heater parallel hookup, shipped in boxes of 2 manifold assemblies per box, when specified with heaters, are available at the following charges:

Manifold Assembly	Two Heater	Three Heater	Four Heater
Trade Price	$ 7.25	11.00	14.00

All G-10 water boilers and sizes G-105S thru G-1014S steam boilers can be provided with sections for insertion of heaters at no extra charge. When desired add suffix letter T to boiler number and specify the number of sections with heater openings. Cover plates to close unused water heater openings will be furnished only if specified on order at Trade Price each $4.50

When specified, the G-10 water boiler with heater can be provided with the combination L8124E in place of the L4006A limit control at the added Trade Price of $18.50

When No. 1023 heaters are used in steam boilers, the L4006A operating control will be required for installation in a heater tapping. See page 35 for Trade Price.

When the No. 1023 heaters are used in a storage type domestic hot water system, the L4006A operating control will be required for insertion in a storage tank, see page 35 for the Trade Price.

NO. 1023 HEATER RATINGS
TANKLESS APPLICATION

boiler number	no. of tankless heaters	intermittent draw heater rating gpm @ 100° rise	pressure drop (with manifolds) PSI
G-105 - G-1033	1	4¾	19
G-105 - G-1033	2	7½	14
G-106 - G-1033	3	10	12
G-108 - G-1033	4	12¾	11

NOTE: Heaters for Steam Boilers available 5 thru 14 sections only

STORAGE TANK APPLICATION

boiler number	number of heaters	continuous draw 100° rise gpm	recovery capacity 100° rise gph	boiler output required mbh	storage tank size gals
G-105 - G-1033	1	4	240	200	500
G-105 - G-1033	2	7	420	350	500
G-106 - G-1033	3	10	600	500	500
G-108 - G-1033	4	13	780	650	1 000
G-1011 - G-1033	5	16	960	800	1 000
G-1013 - G-1033	6	19	1.140	950	1 000
G-1014 - G-1033	7	22	1.320	1 100	1 500
G-1016 - G-1033	8	25	1 500	1 250	1.500
G-1018 - G-1033	9	28	1.680	1.400	1 500
G-1020 - G-1033	10	31	1 860	1.550	2 000
G-1022 - G-1033	11	34	2 060	1.700	2 000
G-1024 - G-1033	12	37	2 220	1.850	2.000

NOTE: Heaters for Steam Boilers available 5 thru 14 sections only

▼ See page 56

01871

G-40 AND G-10 CONTROL OPTIONS

G-40 AND G-10 BOILERS:

F M or F.I.A. equipment
F I A. requires special gas train PLUS F.I.A. electronic panel

Special gas manifold control equipment that meets F.M. or F I A. *minimum* requirements are available at the Trade Price listed. For actual F.I.A. installations and before boiler installation, signed approval by F.I.A. inspector of both electronic controls and gas manifold control equipment being used should be obtained. Submittal data for F.M. or F.I.A. equipment is available from American-Standard. Electronic control systems are available as described and at the Trade Prices listed below.

Note: A low water cut-off for water boilers (50 lb. or 80 lb. water working pressure) will be furnished as required and charged for at the prices shown for No. 63 or No. 150 on page 15.

F.M. & F.I.A. GAS CONTROL EQUIPMENT (GAS TRAIN ONLY)

	ADD TO BOILER TRADE PRICE ▼	
BOILER NUMBER	F.M (1)	F I.A.(2)
G-403 thru G-4014	$ 84.00	$437.00
G-105 thru G-106	73.00	439.00
G-107	85.00	473.00
G-108 thru G-1011	75.00	572.00
G-1012 thru G-1017	122.00	651.00
G-1018	164.00	710.00
G-1019 thru G-1030	170.00	757.00
G-1031 thru G-1033	218.00	879.00

(1) F M. gas control equipment includes two manual shut-off valves, a test vent valve and one HO valve.
(2) F.I.A. gas control equipment includes two manual shut-off valves, HI and LO pressure switches, two HO valves and a Vent valve

G-40 AND G-10 ELECTRONIC CONTROL PANEL SYSTEMS

(FOR 115 VOLT, 60 CYCLE 1 PHASE POWER ONLY)

Panel System EPG-M: Provides manual ignition, 100% safety shut-off with electronic supervision of pilots 1 to 3. Main burners and pilots are turned off on pilot failure. Continuous flame pilot operation. Equipment includes: one panel for each electronic pilot (Main panel plus 1 or 2 auxiliary panels) prewired and factory assembled; Baso valves and thermocouples and Q-179B electronic flame rod and pilot; RA890F protectorelay installed on panel; 3 ft. flame rod wire per pilot.

Panel System EPG-ES: Provides electronic supervision of each pilot (1 to 3) and interrupted continuous burning pilot electronically turned off and electrically relighted on every cycle to achieve positive component check of relays and pilot system. Complete automatic operation of boiler. 100% safety shut-off. Equipment includes: one panel for each electronic pilot (Main panel plus 1 or 2 auxiliary panels) prewired and factory assembled; Q179A flame rod and electric ignition pilots; ignition transformer; V4046C pilot solenoid valves, RA890F protectorelay installed in panels with 2-4 seconds response timing and alarm contacts; minimum of 3 ft. of flame rod wire and 3 ft. of ignition cable per pilot.

Panel System EPG-E: Provides electronic supervision of each pilot (1 to 3) and intermittent electric ignition of all pilots. Complete automatic operation of boiler. 100% safety shut-off. Equipment includes: one panel for each electronic pilot (Main panel plus 1 or 2 auxiliary panels) prewired and factory assembled; Q179A flame rod and electric ignition pilots; ignition transformer; V4046C pilot solenoid valves; RA890F protectorelay installed in panel with 2-4 seconds response timing and alarm contacts; minimum of 3 ft. of flame rod wire and 3 ft. of ignition cable per pilot.

Panel System EPG-M(FIA): Specifically designed to meet FIA requirements. Provides constant burning manually lighted electronically supervised pilots (1 to 3). 100% safety shut-off. Equipment includes: one panel for each electronic pilot (Main panel plus 1 or 2 auxiliary panels) prewired and factory assembled; alarm bell, alarm silencing switch; purge timer, all factory assembled in master panel, RA 890F protectorelay installed in panel; Baso valves and thermocouples and Q-179B electronic flame rod pilot; 3 ft. flame rod wire per pilot.

***ADDITIONAL CHARGES—Trade Price**

Specify on order type of system desired, as described above, and add charge for boiler size involved to Trade Price of boiler with regular equipment.

PANEL SYSTEMS EPG-M		
boiler no	system no.	added charge (1)
G-403 thru G-4014	EPG-M1	$206.00
G-105 thru G-1012	EPG-M1	206.00
G-1013 thru G-1023	EPG-M2	396.00
G-1024 thru G-1033	EPG-M3	594.00

PANEL SYSTEMS EPG-E		
boiler no	system no	added charge (1)
G-403 thru G-1014	EPG-E1	$228.00
G-105 thru G-1012	EPG-E1	228.00
G-1013 thru G-1023	EPG-E2	420.00
G-1024 thru G-1033	EPG-E3	630.00

PANEL SYSTEMS EPG-ES		
boiler no	system no	added charge (1)
G-403 thru G-4014	EPG-ES1	$272.00
G-105 thru G-1012	EPG-ES1	272.00
G-1013 thru G-1023	EPG-ES2	464.00
G-1024 thru G-1033	EPG-ES3	675.00

PANEL SYSTEMS EPG-M(FIA)		
boiler no.	system no	added charge
G-403 thru G-4014	EPG-M1(FIA)	$376.00
G-105 thru G-1012	EPG-M1(FIA)	376.00
G-1013 thru G-1023	EPG-M2(FIA)	575.00
G-1024 thru G-1033	EPG-M3(FIA)	782.00

Flame Rod Wire: Trade Price per foot — $0.40
Ignition Cable: Trade Price per foot — 0.85

Note: If purge timer is desired, specify on order and add $62.00 Trade Price

(1) Trade prices apply to equipment when shipped with boiler. For field conversions, price on application.

▼ See page 56

01872

AP(T) PACKAGED BOILER-BURNER UNITS

Designed and equipped with controls for forced circulation.

Here's a competitively priced oil-fired cast iron boiler-burner unit just loaded with features that sell. Available with or without I-W-H rated tankless heater, this packaged winner features the incomparable DH Burner and has the patented "Eliminaire" (cast-in air separator) that is exclusive with American-Standard.

Factory assembled, pre-wired and crated, this quality cast iron boiler at a budget price, is tested and equipped for 30 lbs. water working pressure.

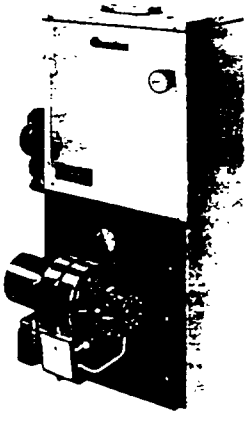
Motor and controls are regularly furnished for 115 volt, 60 cycle power supply.

WATER

packaged unit number	gross I=B=R output Mbh	• I=B=R burner capacity gph	tankless heater number	▲ I=W=H rating	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price with standard equipment	approx. shipping weight	chimney size
Packaged units with factory installed tankless heater: With R8182D Aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.									
APT-95	95	.95	218	2¾	82.6	550	$491.00	496	8 x 8 x 15
APT-130	130	1.25	222	3¼	113.0	753	550.00	580	8 x 8 x 15
APT-165	165	1.60	230	3¾	143.5	956	629.00	647	8 x 8 x 15
Packaged units less heater: With L4080B Aquastat limit control, and separate R8184G light sensing primary control.									
AP-95	95	.95	.	. . .	82.6	550	$458.00	481	8 x 8 x 15
AP-130	130	1.25	.	. .	113.0	753	513.00	565	8 x 8 x 15
AP-165	165	1.60	.	.	143.5	956	590.00	632	8 x 8 x 15

•Nozzle sizes, gph, 60° solid, furnished with the above units:
AP(T)-95, 0.90; AP(T)-130, 1.25; AP(T)-165, 1.50.

▲ Gallons of water per minute from 40°F to 140°F with 200°F boiler water temperature.



Standard equipment:

Model DH-5 Arcoflame oil burner with sling mounting and factory installed cad cell, bracket and leads.
T822D thermostat.
Light weight insulating fire brick combustion chamber.
Nozzle.
Draft regulator.
ASME relief valve.
Pressure and temperature gauge.
1¼" circulator with piping.
Wiring harness
Drain valve

Note: Units are shipped with flush jacket and with all electrical controls (except thermostat), circulator and piping, factory installed and wired. Arcoflame oil burner shipped separately. Draft regulator, relief valve and thermostat shipped inside boiler crate.

Two-stage fuel unit is available for DH-5 oil burner. Specify on Order.
Added Trade Price $6.15

Ordering Examples:

1 Packaged unit with heater
1 APT-130

2 Packaged unit less heater.
1 AP-95

A-3 PACKAGED BOILER-BURNER UNITS

Where quality, performance and packaged convenience are required, it's the A-3 all the way. Completely packaged and pre-wired, and crated to handle easily on that next job. Available with or without top performing tankless heater, the A-3 features the American-Standard built and backed DH Arcoflame oil burner for years of troublefree service. Wet base construction assures top performance; quality controls and accessories sell themselves. New improved ratings are achieved with present DH-5 oil burner having 1,725 rpm motor.

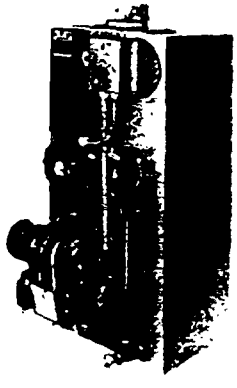
Furnished with controls for forced circulation, the A-3 is tested and equipped for 30 lbs. water working pressure. Unit is arranged to operate on 115 volt, 60 cycle power supply.

WATER

packaged unit number	gross I=B=R output Mbh	* I=B=R burner capacity gph	tankless heater number	▲ I=W=H rating	net I=B=R rating Mbh	net rating sq ft water	▼Trade Price with standard equipment	approx. shipping weight	chimney size
Packaged units with factory installed tankless heater: With R8182D Aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.									
A-33M-PT	108	1.00	222	4	93.9	626	**$591.00**	735	8 x 8 x 15
A-34M-PT	148	1.35	230	4	128.7	858	**684.00**	818	8 x 8 x 15
A-35M-PT	188	1.70	328	4¾	163.5	1090	**785.00**	956	8 x 8 x 15
Packaged units less heater: With R8182F Aquastat combination, limit and circulator control, light sensing primary control, one heater opening cover plate.									
A-33M-P	108	1.00	. . .	. . .	93.9	626	**$558.00**	720	8 x 8 x 15
A-34M-P	148	1.35	. . .	. .	128.7	858	**649.00**	801	8 x 8 x 15
A-35M-P	188	1.70	.	. . .	163.5	1090	**739.00**	944	8 x 8 x 15

*Nozzle sizes, gph, 70° solid, furnished with the above units: A-33, 1.00; A-34, 1.35; A-35, 1.75.

▲ Gallons of water per minute heated from 40°F to 140°F with 200°F boiler water temperature



Standard equipment:

Model DH-5 Arcoflame oil burner with sling mounting and factory installed cad cell, bracket and leads.
T822D thermostat.
Scientifically designed pre-cast refractory combustion chamber.
Nozzle.
Draft regulator.
ASME relief valve.
Pressure and temperature gauge
1¼" circulator with piping
Wiring harness.
Drain valve
Optional equipment: See page 22.

Note: Units are shipped with flush jacket and with all electrical controls (except thermostat), circulator and piping, factory installed and wired. Arcoflame oil burner shipped separately Draft regulator, relief valve and thermostat shipped inside boiler crate.

Zone valve packages are available for water boilers. For details and prices, see page 34.

Ordering Examples:

1. Packaged unit with heater with optional equipment:
   1 A-33 M-PT boiler-burner unit with jacket extension
2. Packaged unit less heater with standard equipment
   1 A-34 M-P boiler-burner unit

A-3 NON-PACKAGED ALL-PURPOSE BOILER-BURNER UNITS

If you prefer your oil-fired boilers unpackaged for convenience and flexibility, choose the A-3 Non-Packaged Boiler-Burner unit in one of five sizes for water or steam, with or without tankless heater. This boiler offers you A-3 versatility. It can be used on forced circulation or gravity systems or steam. New improved ratings are achieved with present DH-5 oil burner having 1,725 rpm motor.

The flush jacket installs easily and provides free access to all controls and burner for quick adjustment and servicing.

The factory assembled sections are tested and equipped for 30 lbs. water working pressure. Motor and controls are regularly furnished for 115 volt, 60 cycle power supply.

WATER

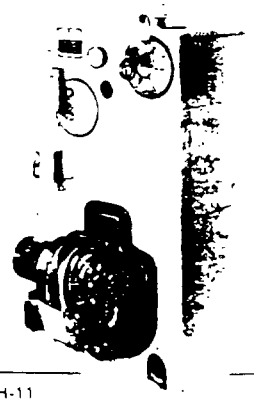
boiler-burner unit number	gross I=B=R output Mbh	*I=B=R burner capacity gph	tankless heater number	▲I=W=H rating	net I=B=R rating Mbh	net rating sq ft water	▼Trade Price with standard equipment	approx. shipping weight	chimney size
Forced circulation units with factory installed tankless heater: With R8182D Aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.									
A-33M-WBT	108	1.00	222	4	93.9	626	**$480.00**	666	8 x 8 x 15
A-34M-WBT	148	1.35	230	4	128.7	858	**573.00**	756	8 x 8 x 15
A-35M-WBT	188	1.70	328	4¾	163.5	1090	**674.00**	878	8 x 8 x 15
A-36M-WBT	228	2.20	335	5½	198.3	1322	**770.00**	1016	8 x 8 x 15
A-37M-WBT	268	2.50	335	5¾	233.0	1553	**860.00**	1148	8 x 12 x 15
Forced circulation units less heater: With R8182F Aquastat combination, limit and circulator control, light sensing primary control.									
A-33M-WB	108	1.00	. .	. .	93.9	626	**$447.00**	658	8 x 8 x 15
A-34M-WB	148	1.35	.	.	128.7	858	**538.00**	740	8 x 8 x 15
A-35M-WB	188	1.70	. .	.	163.5	1090	**628.00**	875	8 x 8 x 15
A-36M-WB	228	2.20	.	. .	198.3	1322	**719.00**	1005	8 x 8 x 15
A-37M-WB	268	2.50	.	.	233.0	1553	**809.00**	1138	8 x 12 x 15
Gravity units less heater: With L4080A Aquastat limit control, and separate R8184G light sensing primary control.									
A-33M-WBG	108	1.00			93.9	626	**$443.00**	657	8 x 8 x 15
A-34M-WBG	148	1.35		. .	128.7	858	**534.00**	739	8 x 8 x 15
A-35M-WBG	188	1.70	. .	. . .	163.5	1090	**624.00**	874	8 x 8 x 15
A-36M-WBG	228	2.20	. .	.	198.3	1322	**715.00**	1004	8 x 8 x 15
A-37M-WBG	268	2.50			233 0	1553	**805.00**	1137	8 x 12 x 15

STEAM

boiler-burner unit number	gross I=B=R output Mbh	*I=B=R burner capacity gph	tankless heater number	▲I=W=H rating	net I=B=R rating Mbh	net I=B=R sq ft steam	▼Trade Price with standard equipment	approx. shipping weight	chimney size
Steam units with factory installed tankless heater: With PA404A Pressuretrol, L4006A Aquastat operating control, and separate R8184G light sensing primary control.									
A-33M-SBT	108	1.00	222	3½	81.0	338	**$480.00**	667	8 x 8 x 15
A-34M-SBT	148	1.35	230	3½	111.0	463	**573.00**	752	8 x 8 x 15
A-35M-SBT	188	1.70	328	4¼	141 0	588	**674.00**	879	8 x 8 x 15
A-36M-SBT	228	2.20	335	4¾	171.0	713	**770.00**	1017	8 x 8 x 15
A-37M-SBT	268	2.50	335	5¼	201 0	838	**860.00**	1149	8 x 12 x 15
Steam units less heater: With PA404A Pressuretrol, and separate R8184G light sensing primary control.									
A-33M-SB	108	1.00	. . .	. . .	81.0	338	**$443.00**	658	8 x 8 x 15
A-34M-SB	148	1.35	. .	. . .	111.0	463	**534.00**	740	8 x 8 x 15
A-35M-SB	188	1.70	. . .	. . .	141.0	588	**624.00**	875	8 x 8 x 15
A-36M-SB	228	2.20	. . .	. . .	171.0	713	**715.00**	1005	8 x 8 x 15
A-37M-SB	268	2.50	.	.	201.0	838	**805.00**	1138	8 x 12 x 15

*Nozzle sizes, gph, 70° solid, furnished with the above units. A-33, 1.00; A-34, 1.35; A-35, 1.75; A-36, 2.25; A-37, 2.50.

▲Gallons of water per minute heated from 40°F to 140°F with 200°F boiler water temperature



Standard equipment:

Model DH-5 Arcoflame oil burner with sling mounting and factory installed cad cell bracket and leads.
T822D thermostat.
Scientifically designed pre-cast refractory combustion chamber.
Nozzle
Draft regulator
Drain valve
Units WITH water heater: 1 cover plate with ½" control tapping
Units LESS heater: 2 cover plates for heater openings
Water: ASME relief valve
Pressure and temperature gauge
Steam: ASME safety valve
Steaming gauge
Gauge glass with trimmings

Zone valve packages are available for water boilers. For details and prices, see page 34.

Ordering Examples:

1 All-Purpose boiler-burner unit with standard equipment
For forced circulation with heater
1 A 37M-WBT boiler burner unit
For gravity circulation
1 A 33M-WBG boiler burner unit

2 All Purpose boiler burner unit with optional equipment
For forced circulation less heater
1 A 35M-WB boiler burner unit with two stage fuel unit

Optional equipment: See page 22

A-3 ALL-PURPOSE OIL FIRED BOILERS

For the boiler that spells quality and dependability, look no further than the A-3 with factory-assembled cast iron section assembly that is tested and equipped for 30 lbs. water working pressure. The flush jacket slips on easily. This boiler provides outstanding performance.

WATER

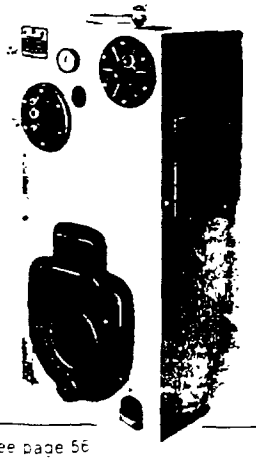
boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	tankless heater number	▲ I=W=H rating	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price	approx. shipping weight	chimney size
Boiler with factory installed tankless heater—forced circulation									
A-33M-WT	108	1.00	222	4	93.9	626	**$315.00**	613	8 x 8 x 15
A-34M-WT	148	1.35	230	4	128.7	858	**408.00**	698	8 x 8 x 15
A-35M-WT	188	1.70	328	4¾	163.5	1090	**509.00**	825	8 x 8 x 15
A-36M-WT	228	2.20	335	5½	198.3	1322	**605.00**	962	8 x 8 x 15
A-37M-WT	268	2.50	335	5¾	233.0	1553	**695.00**	1093	8 x 12 x 15
Boiler less heater—gravity or forced circulation									
A-33M-W	108	1.00			93.9	626	**$290.00**	605	8 x 8 x 15
A-34M-W	148	1.35			128.7	858	**381.00**	687	8 x 8 x 15
A-35M-W	188	1.70			163.5	1090	**471.00**	822	8 x 8 x 15
A-36M-W	228	2.20			198.3	1322	**562.00**	951	8 x 8 x 15
A-37M-W	268	2.50			233.0	1553	**652.00**	1083	8 x 12 x 15

STEAM

boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	tankless heater number	▲ I=W=H rating	net I=B=R rating Mbh	net I=B=R sq ft steam	▼ Trade Price	approx. shipping weight	chimney size
Boiler with factory installed tankless heater									
A-33M-ST	108	1.00	222	3½	81.0	338	**$315.00**	614	8 x 8 x 15
A-34M-ST	148	1.35	230	3½	111.0	463	**408.00**	699	8 x 8 x 15
A-35M-ST	188	1.70	328	4¼	141.0	588	**509.00**	826	8 x 8 x 15
A-36M-ST	228	2.20	335	4¾	171.0	713	**605.00**	963	8 x 8 x 15
A-37M-ST	268	2.50	335	5¼	201.0	838	**695.00**	1094	8 x 12 x 15
Boiler less heater									
A-33M-S	108	1.00			81.0	338	**$290.00**	606	8 x 8 x 15
A-34M-S	148	1.35			111.0	463	**381.00**	688	8 x 8 x 15
A-35M-S	188	1.70			141.0	588	**471.00**	823	8 x 8 x 15
A-36M-S	228	2.20			171.0	713	**562.00**	952	8 x 8 x 15
A-37M-S	268	2.50			201.0	838	**652.00**	1084	8 x 12 x 15

▲ Gallons of water per minute heated from 40°F to 140°F with 200°F boiler water temperature

Only I=B=R approved oil burners, such as the DH-5 burner, may be used with A-3 oil fired boilers. Other I=B=R approved burners are available. Consult your American Standard District Office for details.



Standard equipment:

Scientifically designed pre-cast refractory combustion chamber.
Drain valve

Water: ASME relief valve
Pressure and temperature gauge

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings
[illegible] Equipment See page 22

[illegible] A-37 Sp[illegible] Assemb[illegible] added
Trade [illegible] $16.00

Note: Boilers with factory installed tankless heater are shipped with one water heater opening cover plate with ¾" control tapping. Boilers less factory installed heater are shipped with an additional water heater opening cover plate (blank).

Zone valve packages are available for water boilers. For details and prices, see page 34.

Ordering Examples

1. Water boiler less heater with standard equipment
   1 A-34M W boiler
2. Steam boiler with heater with standard equipment
   1 A-36M ST boiler
3. Water boiler with heater with optional equipment
   1 A-35M WT boiler with jacket extension

▼ See page 56

A-3 OPTIONAL EQUIPMENT

FOR A-3 BOILER-BURNER UNITS AND OIL FIRED BOILERS

Jacket extension: Jacket extension provides 15¾" enclosure in front for concealment of oil burner and controls. Approximate shipping weight 35 lbs. Specify on order. Added Trade Price $32.33

McDonnell & Miller No. 67AR low water fuel cut-off for quick hook up installation is available for A-3 steam boilers at added Trade Price of $31.15

Controls and control sets are shown on page 35.

The No. 5Z Control Set can be used for circulator zoning with A-3 boiler-burner units with tankless heater. 1 No. 5Z set is required for each zone in addition to the first zone which is controlled by the No. 5 Control Set or equivalent. Added Trade Price . . . $27.60

FOR A-3 PACKAGED AND ALL-PURPOSE BOILER-BURNER UNITS

Two-stage fuel unit is available for DH-5 oil burner at added Trade Price charge of $6.15

For substitution of No. 4 control set consisting of T822D thermostat, L4081B Aquastat limit and circulator control, plus R8184G light sensing primary control, instead of R8182F combination control, for non-packaged A-3 boiler-burner units for forced circulation LESS heater. Added Trade Price $12.45

For substitution of No. 5 control set consisting of T822D thermostat, L8124C Aquastat, limit, reverse and operating control, circulator relay, plus R8184E light sensing primary control, instead of R8182D combination control, for non-packaged A-3 boiler-burner units for forced circulation WITH tankless heater. Added Trade Price $4.90

Order R8182D Aquastat-relay combination instead of R8182F control to permit use of tankless heater with A-3 non-packaged boiler-burner units furnished less water heater. Added Trade Price . $9.90

Order R8182E Aquastat-relay combination instead of R8182F control to provide room thermostat control of circulator. Added Trade Price $5.40

I=W=H RATED BUILT-IN TANKLESS WATER HEATERS FOR A-3

Heaters tested with boilers.

Built-in tankless heaters can be ordered for separate shipment with units or boilers specified less heater as follows:

unit no.	I=B=R burner capacity gph	heater no.	▲ I=W=H rating		▼ Trade Price
			water	steam	
A-33	1.00	222	4	3½	$28.00
A-34	1.35	230	4	3½	30.00
A-35	1.70	328	4¾	4¼	41.00
A-36	2.20	335	5½	4¾	46.00
A-37	2.50	335	5¾	5¼	46.00

▲Gallons of water per minute heated from 40°F to 140°F with 200°F boiler water temperature.

PFA-3 PRESSURE FIRED BOILER-BURNER UNITS

The PFA-3 Pressure Fired Boiler is forced-draft with flame retention burner using No. 2 oil for over 80% efficiency. Attractive two-toned brown and beige jacket with optional matching acoustically treated jacket extension. Wet base construction eliminates need for separate base. Perfect seal between boiler sections is achieved with durable sealant. Factory assembled sections are tested and equipped for 50 lbs. water working pressure. Motors and controls regularly furnished for 115 volt, 60 cycle power supply.

WATER

boiler-burner unit number	gross I=B=R output Mbh	* I=B=R burner capacity gph	tankless heater number	† I=W=H rating	net I=B=R rating Mbh	net rating sq. ft. water	▼ Trade Price with standard equipment	approx. shipping weight	■ vent size diam. in.
Forced circulation units with factory installed tankless heater: No. 5 control set — T822D thermostat, L8124C Aquastat, reverse and operating control, circulator relay, R8184G light sensing primary control.									
PFA-34-WT	300	2.65	226	6.0	260.9	1739	$ 907.00	905	8
PFA-35-WT	375	3.30	232	7.5	326.1	2174	1026.00	1096	8
PFA-36-WT	450	3.95	445	9.0	391.3	2609	1150.00	1287	8
PFA-37-WT	526	4.60	445	9.0	457.4	3049	1262.00	1481	8
Forced circulation units less heater: No. 4 control set—T822D thermostat, L4081B Aquastat limit and circulator control. R8184G light sensing primary control.									
PFA-34-W	300	2.65	...	...	260.9	1739	$ 859.00	894	8
PFA-35-W	375	3.30	...	...	326.1	2174	970.00	1085	8
PFA-36-W	450	3.95	...	...	391.3	2609	1081.00	1276	8
PFA-37-W	526	4.60	...	...	457.4	3049	1193.00	1470	8

STEAM

boiler-burner unit number	gross I=B=R output Mbh	* I=B=R burner capacity gph	tankless heater number	† I=W=H rating	net I=B=R rating Mbh	net I=B=R sq. ft. steam	▼ Trade Price with standard equipment	approx. shipping weight	vent size diam. in.
Steam units with factory installed tankless heater: No. 2 control set — T822D thermostat, PA404A Pressuretrol, L4006A Aquastat operating control, R8184G light sensing primary control.									
PFA-34-ST	300	2.65	226	6.0	225.1	938	$ 899.00	905	8
PFA-35-ST	375	3.30	232	7.5	281.3	1172	1018.00	1096	8
PFA-36-ST	450	3.95	445	9.0	337.6	1407	1143.00	1287	8
PFA-37-ST	526	4.60	445	9.0	394.6	1644	1254.00	1481	8
Steam units less heater: No. 1 control set—T822D thermostat, PA404A Pressuretrol, R8184G light sensing primary control.									
PFA-34-S	300	2.65	...	...	225.1	938	$ 848.00	900	8
PFA-35-S	375	3.30	...	...	281.3	1172	959.00	1091	8
PFA-36-S	450	3.95	...	...	337.6	1407	1071.00	1282	8
PFA-37-S	526	4.60	...	...	394.6	1644	1182.00	1476	8

*Nozzle sizes furnished with the above units: (S — solid; H — hollow) PFA-34, 2.50 gph 45° H; PFA-35, 3.25 gph 45° S, PFA-36, 4.00 gph 45° S; PFA-37, 4.50 gph 30° S.

†Gallons of water per minute heated from 40F to 140F with 200F boiler water temperature.

■ Vent needs to extend only 3 feet above highest part of roof.

Standard Equipment

Flange mounted oil burner with 2-stage fuel unit; factory installed light sensing cad cell with bracket and leads: V4046B instantaneous oil valve; Syracuse electronic time delay; drain valve.

boiler-burner unit	oil burner	boiler-burner unit	oil burner
PFA-34	LC-334-A3	PFA-36	LC-534-A
PFA-35	LC-334-A	PFA-37	

Units WITH water heater: 1 cover plate with ¾" control tapping.

Units LESS water heater: 2 cover plates for heater openings.

Water: ASME relief valve
Pressure and temperature gauge

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings

Optional Equipment

Available in split assemblies. Specify on order. Added Trade Price $16.00

For other optional equipment see page 24.

Ordering Examples:

1. Pressure fired boiler-burner unit with standard equipment with heater for water:
   1 PFA-34-WT boiler-burner unit
2. Pressure fired boiler-burner unit with optional equipment less heater for steam:
   1 PFA-37-S boiler-burner unit with jacket extension

Zone valve packages are available for water boilers. For details and prices, see page 34.

PFA-3 OPTIONAL EQUIPMENT

Acoustically treated brown and beige jacket extension: Jacket extension provides 17¾" enclosure in front for concealment of oil burner and controls. Approximate shipping weight 42 lbs. Specify on order. Added Trade Price **$38.00**

No. 5-Z control set for circulator zoning with PFA-3 boiler-burner units equipped for tankless heater. 1 No. 5-Z set is required for each zone in addition to the first zone which is controlled by the No. 5 control set or equivalent. Trade Price of **$27.60**

McDonnell & Miller No. 67AR low water fuel cut-off for quick hook-up installation is available for PFA-3 steam units at added Trade Price of **$31.15**

McDonnell & Miller No. 63 low water cut-off is available for PFA-3 water units at added Trade Price of. **$42.75**

Controls and control sets are shown on page 35.

I=W=H RATED BUILT-IN TANKLESS WATER HEATERS FOR PFA-3

Heaters tested with boilers.

Built-in tankless heaters can be ordered for separate shipment with units or boilers specified less heater as follows:

unit no.	I=B=R burner capacity gph	heater no.	I=W=H rating		pressure drop thru heater at rated flow	▼ Trade Price
			water	steam		
PFA-34	2.65	226	6.0	6.0	23 psi	**$40.00**
PFA-35	3.30	232	7.5	7.5	36 psi	**48.00**
PFA-36	3.95	445	9.0	9.0	37 psi	**61.00**
PFA-37	4.60	445	9.0	9.0	37 psi	**61.00**

Gallons of water per minute from 40°F to 140°F with 200°F boiler water temperature

PFA-5 PRESSURE FIRED BOILER-BURNER UNITS

PFA-5 Pressure Fired Boiler-Burner Units are equipped with burners designed and tested for over 80% efficiency and outstanding performance. Combustion chamber and separate base are not required due to wet base design. Minimum stack required making boiler ideal for replacement. Boiler is tested and equipped for 50 lbs. water working pressure; 80 lbs. water working pressure is optional at extra cost. Perfect seal between boiler sections, between canopy and section assembly and between pressure relief door and back section is attained with durable sealant. Excellent boiler water circulation in steam boilers assures fast steaming and good steam quality.

■ Vent needs to extend only 3 feet above highest part of roof.

pressure fired boiler-burner unit number	gross I=B=R output Mbh	I=B=R burner capacity	piping and pickup factor		net I=B=R rating Mbh		sq. ft. steam	net rating sq. ft. water	▼ Trade Price with standard equipment	■ vent size diam. in.	approximate shipping weight	burner model supplied with standard equipment ●
oil		oil gph	steam	water	steam	water			oil			oil
PFA-504-* O(T)	620	5.45	1.333	1.15	465.1	539.1	1938	3594	$1406.00	10	1840	95A-1-8702-JA-T
PFA-505-* O(T)	786	6.90	1.333	1.15	589.6	683.5	2457	4557	1683.00	10	2210	96A-M-6131-J-T
PFA-506-* O(T)	950	8.35	1.333	1.15	712.7	826.1	2969	5507	1853.00	10	2520	96A-M-6131-J-T
PFA-507-* O(T)	1116	9.80	1.333	1.15	837.2	970.4	3488	6469	2151.00	10	2880	96A-B-8316-JC-T
PFA-508-* O(T)	1282	11.20	1.330	1.15	963.9	1114.8	4016	7432	2386.00	10	3190	96A-B-8317-JC-T
PFA-509-* O(T)	1446	12.65	1.315	1.15	1099.6	1257.4	4582	8383	2556.00	14	3550	96A-B-8318-JC-T
PFA-510-* O(T)	1612	14.10	1.302	1.15	1238.1	1401.7	5159	9345	2993.00	14	3935	96A-T-A-8419-J-T
PFA-511-* O(T)	1776	15.55	1.292	1.15	1374.6	1544.3	5728	10295	3461.00	14	4285	97A-T-A-8613-J-T
PFA-512-* O(T)	1944	16.95	1.288	1.15	1509.3	1690.4	6289	11269	3738.00	14	4645	97A-T-A-8614-J-T
PFA-513-* O(T)	2108	18.40	1.288	1.15	1636.6	1833.0	6819	12220	3909.00	14	4955	97A-T-A-8614-J-T
PFA-514-* O(T)	2272	19.85	1.288	1.15	1764.0	1975.7	7350	13171	4111.00	14	5317	97A-T-A-8615-J-T
PFA-515-* O(T)	2440	21.25	1.288	1.15	1894.4	2121.7	7893	14145	4398.00	14	5675	97A-T-2-7635-E-1
PFA-516-* O(T)	2604	22.70	1.288	1.15	2021.7	2264.3	8424	15095	4729.00	18	5985	97A Hi-Lo-2-7685-E-1
PFA-517-* O(T)	2768	24.15	1.288	1.15	2149.1	2407.0	8954	16047	4931.00	18	6345	97A Hi-Lo-2-7685-E-1
PFA-518-* O(T)	2936	25.60	1.288	1.15	2279.5	2553.0	9498	17020	5197.00	18	6750	98A Hi-Lo-2-7771-E-1
PFA-519-* O(T)	3100	27.00	1.288	1.15	2406.8	2695.7	10028	17971	5442.00	18	7060	98A-Hi-Lo-2-7771-E-1
PFA-520-* O(T)	3260	28.45	1.288	1.15	2531.1	2834.8	10546	18899	5623.00	18	7420	98A Hi-Lo-2-7771-E-1
PFA-521-* O(T)	3430	29.90	1.288	1.15	2663.0	2982.6	11096	19884	5836.00	18	7780	98A Hi-Lo-2-7771-E-1

The net I=B=R ratings shown are based on piping and pick-up allowances listed above. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.

*Substitute letter "S" for steam; "W" for water. Start Up and One Year's Service . . . Price on Application

Suffix (T) denotes boiler with openings in center section for tankless heaters when specified. For Built-in Water Heaters, see page 28.

● Nozzle sizes, gph, furnished with the above oil burners are as follows:

unit	no.	gph.	type	unit	no.	gph.	type	unit	no.	gph.	type	unit	no.	gph.	type	unit	no.	gph.	type	unit	no	gph	type
PFA-504	2	2.75	90°H	PFA-509	1	6.00	80°H	PFA-512	2	7.00	70°H	PFA-514	1	3.50	60°H	PFA-517	1	10.00	90°S	PFA-520	1	8.00	80°S
PFA-505	2	3.50	90°H		1	6.50	80°H		1	2.50	70°H	PFA-515	2	8.00	70°H	PFA-518	1	7.50	90°S		1	8.50	80°S
PFA-506	2	4.00	80°H	PFA-510	2	5.50	90°H	PFA-513	2	7.00	70°H		1	5.00	70°H		1	8.00	90°S		1	12.00	80°S
PFA-507	1	4.50	70°H		1	2.75	90°H		1	4.00	70°H	PFA-516	2	7.00	90°S		1	10.00	90°S	PFA-521	2	8.00	80°S
	1	5.00	70°H	PFA-511	2	6.50	80°H						1	8.50	90°S	PFA-519	2	7.50	80°S		1	14.00	80°S
PFA-508	2	5.50	80°H		1	2.00	80°H	PFA-514	2	8.00	60°H	PFA-517	2	7.00	90°S		1	12.00	80°S				

Standard Equipment—All Boilers

Steam: PA404A Pressuretrol, ASME safety valve, steam gauge, gauge glass with trimmings, drain valve.

Water: L4006A Aquastat, ASME relief valve, pressure and temperature gauge, drain valve.

Standard Equipment—Oil Fired

Flange mounted oil burner—97A-T-A, 97A-T-2, 97A Hi-Lo and 98A Hi-Lo burners furnished with flange and pedestal; 2-stage fuel unit. One 95A-1, 96A-M, 96A-B, 96A-T-A and 97A-T-A burners, factory installed cad cell, bracket and leads, R8185E light sensing primary control; V4046B instantaneous oil valve, ST70A1002 electronic time delay. On 97A-T-2, 97A Hi-Lo-2 and 98A Hi-Lo-2 burners, R4150A control—provides pre-purge and post-purge, Q520A base, factory installed C7013A photo cell; delayed and instantaneous oil valves, nozzles.

Standard Motor Voltages

PFA-504 thru PFA-510	115/60/1
PFA-511 thru PFA-521	230/60/1

Ordering Examples:

PFA-5 boiler-burner unit for steam with standard equipment.
1—PFA-514-SO boiler-burner unit

PFA-5 boiler-burner unit for water with optional equipment.
1—PFA-511-WO(T) with jacket extension; 4 No. 548 tankless heaters; with L6006A control

Optional Equipment—Oil Fired

Oil Burners equipped to meet F.M. and Massachusetts Code requirements for PFA-504 through PFA-514 Units are available when specified on order.
Added Trade Price **$159.00**

Burners for PFA-515 through PFA-521 already equipped to meet F.M. requirements. Equipment includes: R4150A provides pre- and post-purge, C7013A Photo Cell and Q520A Base.

Oil Burners to meet F.I.A. requirements—Price on application.

Oil burners for PFA-515 thru PFA-521 to meet Massachusetts Code requirements — Price on application.

Optional burners available forPFA-504 thru PFA-510, see page 28.

01880

▼ See page 56

PFA-5 PRESSURE FIRED BOILER-BURNER UNITS

PFA-5 Pressure Fired Boiler-Burner Units are equipped with burners designed and tested for over 80% efficiency and outstanding performance. Combustion chamber and separate base are not required due to wet base design. Minimum stack required making boiler ideal for replacement. Boiler is tested and equipped for 50 lbs. water working pressure; 80 lbs. water working pressure is optional at extra cost. Perfect seal between boiler sections, between canopy and section assembly and between pressure relief door and back section is attained with durable sealant. Excellent boiler water circulation in steam boilers assures fast steaming and good steam quality.

■ Vent needs to extend only 3 feet above highest part of roof.

pressure fired boiler-burner unit number	gross I=B=R output Mbh	I=B=R burner capacity	piping and pickup factor		net I=B=R rating			net rating sq. ft. water	▼ Trade Price with standard equipment	■ vent size diam. in.	approximate shipping weight	burner model supplied with standard equipment
					Mbh		sq. ft. steam					
gas		gas input Mbh	steam	water	steam	water			gas			gas
PFA-504-* G(T)	620	763	1.333	1.15	465.1	539.1	1938	3594	$2216.00	10	1840	R6.2-G-03-R4795-B.12S
PFA-505-* G(T)	786	966	1.333	1.15	589.6	683.5	2457	4557	2435.00	10	2210	R6.2-G-03-R4795-B.12S
PFA-506-* G(T)	950	1169	1.333	1.15	712.7	826.1	2969	5507	2644.00	10	2520	R6.2-G-03-R4795-B.12
PFA-507-* G(T)	1116	1372	1.333	1.15	837.2	970.4	3488	6469	2960.00	10	2880	R8-G-05-R4795-B.12
PFA-508-* G(T)	1282	1568	1.330	1.15	963.9	1114.8	4016	7432	3206.00	10	3190	R8-G-05-R4795-B.15
PFA-509-* G(T)	1446	1771	1.315	1.15	1099.6	1257.4	4582	8383	3376.00	14	3550	R8-G-05-R4795-B.15
PFA-510-* G(T)	1612	1974	1.302	1.15	1238.1	1401.7	5159	9345	3822.00	14	3935	R8.1-G-05-R4795-B.20
PFA-511-* G(T)	1776	2177	1.292	1.15	1374.6	1544.3	5728	10295	4353.00	14	4285	R8.2-G-05-4150A-H.20
PFA-512-* G(T)	1944	2373	1.288	1.15	1509.3	1690.4	6289	11269	4648.00	14	4645	R8.3-G-10-4150A-H.20
PFA-513-* G(T)	2108	2576	1.288	1.15	1636.6	1833.0	6819	12220	4836.00	14	4955	R10.9-G-10-4150A-H.20
PFA-514-* G(T)	2272	2779	1.288	1.15	1764.0	1975.7	7350	13171	5036.00	14	5315	R10.9-G-10-4150A-H.20
PFA-515-* G(T)	2440	2975	1.288	1.15	1894.4	2121.7	7893	14145	5230.00	14	5675	R10.9-G-10-4150A-H.20
PFA-516-* G(T)	2604	3178	1.288	1.15	2021.7	2264.3	8424	15095	5554.00	18	5985	R10-G-15-4150A-H.25S
PFA-517-* G(T)	2768	3381	1.288	1.15	2149.1	2407.0	8954	16047	5756.00	18	6345	R10-G-15-4150A-H.25S
PFA-518-* G(T)	2936	3584	1.288	1.15	2279.5	2553.0	9498	17020	5938.00	18	6750	R10.1-G-15-4150A-H.25S
PFA-519-* G(T)	3100	3780	1.288	1.15	2406.8	2695.7	10028	17971	6312.00	18	7060	R10.1-G-20-4150A-H.25
PFA-520-* G(T)	3260	3983	1.288	1.15	2531 1	2834.8	10546	18899	6493.00	18	7420	R10.1-G-20-4150A-H.25
PFA-521-* G(T)	3430	4186	1.288	1.15	2663.0	2982.6	11096	19884	6706.00	18	7780	R10.1-G-20-4150A-H.25

The net I=B=R ratings shown are based on piping and pick-up allowances listed above. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.

*Substitute letter "S" for steam; "W" for water. START-UP AND ONE YEAR'S SERVICE INCLUDED IN TRADE PRICE OF GAS UNIT.(1)
Suffix (T) denotes boiler with openings in center section for tankless heaters when specified. For Built-in Water Heaters, see page 28

Standard Equipment—All Boilers

Steam: PA404A Pressuretrol, ASME safety valve, steam gauge, gauge glass with trimmings, drain valve.
Water: L4006A Aquastat, ASME relief valve, pressure and temperature gauge, drain valve.

Standard Equipment—Gas Fired

Flange mounted gas burner. Standard burner controls meet latest UL requirements. Dual automatic gas valves for added reliability. Gas-electric ignition. Electric programming controls and components are factory wired in a control cabinet on the burner. Includes R4795 control on 4 thru 10 section; R4150A control on 11 thru 21 section; proven pilot. Standard burners equipped to operate with 1,000 Btu, 0.6 specific gravity natural gas.

Ordering Examples:
PFA-5 boiler-burner unit for steam with standard equipment.
1—PFA-514-SG boiler-burner unit
PFA-5 boiler-burner unit for water with optional equipment.
1—PFA-511-WG(T) with jacket extension; 4 No. 548 tankless heaters.
Specify gas pressure available at gas train inlet.

(1) Surcharge for Start-Up and Service west of Mississippi River. Contact American-Standard for details.

The complex nature of the Gas and Gas-Oil Burners make them impractical to stock at Bond Plant. Therefore, please allow 3 to 4 weeks lead time for shipment of Standard Equipped Burners after receipt of order at Hydronic Order Service Center.

Optional Equipment

Factory assembled sections available. Specify on order. Added Trade Price — Per section **$21.00**

PFA-5 units are available with controls to meet Factory Mutual and Factory Insurance Association requirements at the following added charges:

boiler size	gas fired F.M.	gas fired F.I.A.
PFA-504–510	$710.00	$875.00
PFA-511–515	541.00	779.00
PFA-516–521	562.00	806.00

For prices of gas burners for use with other than 1000 Btu, 0.6 specific gravity natural gas, or at gas pressures above or below pressures shown in current literature, consult your American Standard District Office.

Hi-Lo Fire Control ..... **Price**
Modulating Fire Control ..... **on**
Alarm System pre-wired and mounted on control cabinet ..... **Application**
Optional Combustion Controls .....
Controls to meet local requirements .....

For Additional Optional Equipment, See page 28.

Standard Motor Voltages

unit number	gas burners
PFA-504–511	115-60-1
PFA 512–521	230-60-3

Other optional motor voltages—Price on Application.

PFA-5 OPTIONAL EQUIPMENT

Jacket extension: Jacket extension provides 34¼" enclosure in front for concealment of burner and controls. Approximate shipping weight 90 lbs. Specify on order. Added Trade Price **$63.00**

PFA-5 boilers tested for 80 lbs. water working pressure: available when specified on order. Add to Trade Price of water boiler ..... **$8.00** per section

Cover plate required to close unused water heater openings will be furnished only if specified on order for "T" type boiler at added charges as follows:

PFA-5 . . . . . Trade Price each **$3.90**

Optional burners to provide low fire start (with cad cell) for PFA504 thru PFA508; Hi-Lo operation provided (with cad cell) for PFA509 and PFA510. Please allow four weeks lead time after receipt of order at the hydronic order service center.

unit	burner model	add to ▼ Trade Price
PFA 504	96A-T-A 8406-JJ30-T	$126.00
PFA 505	96A-T-A 8407-JJ30-T	113.00
PFA 506	96A-T-A 8408-JJ15-T	119.00
PFA 507	96A-T-A 8409-JJ15-T	57.00
PFA 508	96A-T-A 8410-JJ15-T	57.00
PFA 509	96A-HI LO-A-8808-JJ15-T	256.00
PFA 510	96A-HI LO-A-8808-JJ15-T	198.00

Factory assembled sections available. Specify on order. Added Trade Price per section **$21.00**

TANKLESS WATER HEATERS FOR A-5, FRA-5 AND PFA-5

Tankless water heaters are available in any quantity at the following Trade Prices:

heater number	used with	▼ Trade Price each
530	A-5, FR-A-5	$40.00
548	PFA-5	66.50

PFA-5 units with tankless water heaters require additional controls at current prices as follows:

STEAM: L4006A Aquastat operating control. Trade Price **$14.05**

WATER: L6006A Aquastat operating and circulator control. Trade Price **$14.90**

Factory assembled copper pipe manifold for parallel hook-up of multiple heaters are available as follows:

manifold assembly	▼ Trade Prices for A-5, FR-A-5
2 Heater	$ 8.20
3 Heater	12.00
4 Heater	15.25

When suffix "T" is added to boiler number on order for A-5, FR-A-5 or PFA-5 boilers or units, maximum number of center sections with water heater openings are furnished at no extra charge as follows: Except where noted by asterisk in which case max. number of openings minus one is furnished unless max. number is specified on order.

A-5 and FR-A-5 boiler	max. no. of openings	PFA-5 boiler	max. no of openings	PFA-5 boiler	max. no of openings
A-5 or FR-A-504-T	2	PFA-504-T	1	PFA-512-T thru 514-T	5
A-5 or FR-A-505-T thru 507-T	3	PFA-505-T thru 506-T	2	PFA-515-T thru 517-T	6
A-5 or FR-A-508-T thru 509-T	4	PFA-507-T thru 508-T	3	PFA-518-T thru 519-T	7
A-5 or FR-A-510-T thru 511-T*	5	PFA-509-T thru 511-T	4	PFA-520-T thru 521-T	8

The following table shows ratings attained if more than one heater is connected in parallel:

tankless heater no. 530			tankless heater No. 548		
boiler number	no of heaters	*rating gpm	boiler number	no of heaters	*rating gpm
A-5 or FR-A-5-T all sizes	1	4	PFA-5-T all sizes	1	8
A-5 or FR-A-5-T all sizes	2	7	PFA-505-T thru 506-T	2	16
A-5 or FR-A-505-T thru 511-T	3	10	PFA-507-T thru 508-T	3	24
A-5 or FR-A-508-T thru 511-T	4	13	PFA-509-T thru 511-T	4	32
A-5 or FR-A-510-T thru 511-T	5	16	PFA-512-T thru 514-T	5	40
			PFA-515-T thru 517-T	6	48
			PFA-518-T thru 519-T	7	56
			PFA-520-T thru 521-T	8	64

*Gallons of water per minute raised from 40°F to 140°F with 200°F boiler water temperature

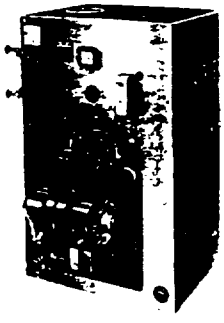
McDONNELL & MILLER LOW WATER CUT-OFFS

	▼ Trade Price
STEAM: No. 369 Low Water Cut-off for A-5, FR-A-5, PFA-5	$25.25
No. 47-2 Feeder and Cut-off for A-5, FR-A-5, PFA-504 thru PFA-509	73.00
No. 51-2 Feeder and Cut-off for PFA-510 thru PFA-521	94.00
WATER—50 PSI: No. 63 Low Water Cut-off for A-5, FR-A-5 and PFA-5	42.75
WATER—80 PSI: No. 150 Low Water Cut-off for PFA-5	64.25

▼ See page 56

FR-A-5 FLAME RETENTION BOILER-BURNER UNITS

The FR-A-5 is a perfect combination of boiler and burner teamed for top performance. Develops 12¼ CO_2.
Tested and equipped for 50 lbs. water working pressure. Motors and controls regularly furnished are for 115 volt, 60 cycle power supply.



WATER boiler-burner unit number	gross I=B=R output Mbh	* I=B=R burner capacity gph	net I=B=R rating Mbh	net rating sq. ft. water	▼ Trade Price with standard equipment	approx. shipping weight	chimney size
For Built-in Water Heaters, Steam and Water Boilers, see page 28.							
FR-A-504-WB(T)	384	3.55	333.9	2226	$1025.00	1576	12 x 12 x 15
FR-A-505-WB(T)	472	4.30	410.4	2736	1136.00	1827	12 x 12 x 20
FR-A-506-WB(T)	560	5.10	487.0	3246	1325.00	2110	12 x 12 x 20
FR-A-507-WB(T)	648	5.90	563.5	3756	1448.00	2367	12 x 16 x 20
FR-A-508-WB(T)	736	6.70	640.0	4266	1602.00	2626	12 x 16 x 20
FR-A-509-WB(T)	824	7.45	716.5	4776	1719.00	2890	12 x 16 x 20
FR-A-510-WB(T)	912	8.25	793.0	5286	1843.00	3144	16 x 16 x 20
FR-A-511-WB(T)	1000	9.05	869.6	5797	1967.00	3392	16 x 16 x 20

STEAM boiler-burner unit number	gross I=B=R output Mbh	* I=B=R burner capacity gph	net I=B=R rating Mbh	net I=B=R rating sq. ft. steam	▼ Trade Price with standard equipment	approx. shipping weight	chimney size
FR-A-504-SB(T)	384	3.55	288.1	1200	$1025.00	1577	12 x 12 x 15
FR-A-505-SB(T)	472	4.30	354.1	1475	1136.00	1828	12 x 12 x 20
FR-A-506-SB(T)	560	5.10	420.1	1750	1325.00	2112	12 x 12 x 20
FR-A-507-SB(T)	648	5.90	486.1	2025	1448.00	2369	12 x 16 x 20
FR-A-508-SB(T)	736	6.70	552.1	2301	1602.00	2628	12 x 16 x 20
FR-A-509-SB(T)	824	7.45	618.2	2576	1719.00	2892	12 x 16 x 20
FR-A-510-SB(T)	912	8.25	684.2	2851	1843.00	3147	16 x 16 x 20
FR-A-511-SB(T)	1000	9.05	750 2	3126	1967.00	3395	16 x 16 x 20

*Nozzle sizes, gph, furnished with the above units. FR-A-504, 2.1.75 80° H. FR-A-505, 1 2.00 & 1 2.25 80° H. FR-A-506, 1 4.00 70° S (200 Psig). FR-A-507, 1 4.50 70° S (200 Psig). FR-A-508, 1 3.25 & 1 3.50 70° S. FR-A-509, 1 3.50 & 1 4.00 70° S. FR-A-510, 2 4.00 70° S. FR-A-511, 2 4.50 70° S. Suffix "T" denotes unit with openings in center sections for tankless heaters. Start-up and one year service available. Price on application.

Standard equipment

Flange mounted oil burner with 2-stage fuel unit; factory installed light sensing cad cell, bracket and leads; R8184G light sensing primary control. Delayed oil valve except on model 92A-7240-D and 92A-7242-D oil burners.

boiler-burner unit number	oil burner
FR-A-504	92A-7240-D
FR-A-505	92A-7242-D
FR-A-506, FR-A-507	95A-300-7468-D (200 Psig fuel unit)
FR-A-508	96A-M-7498-D
FR-A-509	96A-M-7546-B
FR-A-510, FR-A-511	96A-M-7548-B
Draft regulator	
Drain valve	

Water: No. 3 control set: T822D thermostat, L4080B Aquastat limit control, Nozzle(s), ASME relief valve, Pressure and temperature gauge

Steam: No. 1 control set: T822D thermostat, PA404A Pressuretrol, Nozzle(s), ASME safety valve, Steam gauge, Gauge glass with trimmings

Optional Equipment

Jacket extension: Jacket extension provides 25" enclosure in front for concealment of oil burner and controls. Approximate shipping weight 57 lbs. Specify on order. Added Trade Price $41.00

For Factory Mutual Approval and Massachusetts code requirements, special electronic flame safeguard controls are available, with RA890 Protectorelay, W415A control panel (includes Q270A base and R488F switching relay), C7013A photocell. Delayed oil valve.

oil heating unit	burner model	▼ added Trade Price charge
FR A 504	92A-7240 L	$153.00
FR-A-505	92A 7242 L	153.00
FR A 506, FR-A 507	95A-300 7468-L	134.00
FR-A-508	96A-M-7498 L	153.00
FR A-509	96A-M-7546-L	146.00
FR A 510 FR A 511	96A-M-7548 L	146.00

Cover plate required to close unused water heater openings will be furnished only if specified on order for "T" type boiler at added charges as follows:
Trade Price each $4.00

Control sets other than those included in Trade Price of FR-A-5 boiler-burner units will be furnished on order at the following added charges

Control Set	added charge
Steam control set No 2	$15.00
Water control set No 4	10.50
Water control set No 5	22.00
Water control set No 5 Z	27.75

* Add-on zone. Use only with No. 5 Control Set. The No. 5 Z control set for circular zoning on units with tankless heaters.

Ordering Examples.
1 Boiler-burner unit with standard equipment: 1 FR A 506 SB oil heating unit
2 Boiler-burner unit for steam with optional equipment: 1 FR A 509 SB T with No. 2 control set, 3 No. 530 tankless heaters, 1 3 heater manifold

▼ See page 56

FR-A-7 FLAME RETENTION BOILER-BURNER UNITS

The perfect combination of boiler and burner teamed for top performance develops 12¼% CO_2. Available with or less jacket. Tested and equipped for 50 lbs. water working pressure. Operating controls furnished for 115 volt, 60 cycle power supply.

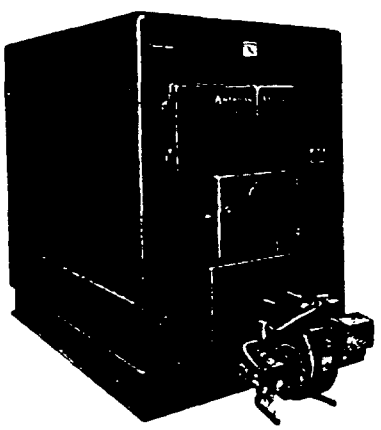
WATER boiler-burner unit number	gross I=B=R output Mbh	• I=B=R burner capacity gph	net I=B=R rating Mbh	▲ piping & pick-up factor	net rating sq. ft. water	unjacketed ▼Trade Price with standard equipment	unjacketed approx. shipping weight	jacketed ▼Trade Price with standard equipment	jacketed approx. shipping weight	chimney size
FR-A-706-WO-B	1160	10.55	1008.7	1.15	6724	$2242.00	4968	$2363.00	5144	16 x 16 x 30
FR-A-707-WO-B	1376	12.30	1196.5	1.15	7976	2473.00	5626	2611.00	5814	16 x 20 x 35
FR-A-708-WO-B	1580	14.15	1373.9	1.15	9159	2938.00	6439	3093.00	6750	16 x 20 x 35
FR-A-709-WO-B	1812	16.35	1575.7	1.15	10504	3143.00	7223	3410.00	7445	20 x 20 x 40
FR-A-710-WO-B	2020	18.15	1756.5	1.15	11710	3467.00	7910	3655.00	8149	20 x 20 x 45
FR-A-711-WO-B	2228	20.20	1937.4	1.15	12916	3690.00	8558	3894.00	8814	20 x 20 x 55
FR-A-712-WO-B	2440	21.95	2121.7	1.15	14144	4248.00	9264	4470.00	9534	20 x 24 x 60
FR-A-713-WO-B	2720	24.10	2365.2	1.15	15768	4458.00	9950	4697.00	10240	20 x 24 x 70
FR-A-714-WO-B	3000	26.30	2608.7	1.15	17391	4768.00	10678	5023.00	10988	24 x 24 x 80

STEAM boiler-burner unit number	gross I=B=R output Mbh	• I=B=R burner capacity gph	net I=B=R rating Mbh	net I=B=R rating sq. ft. steam	▲ piping & pick-up factor	unjacketed ▼Trade Price with standard equipment	unjacketed approx. shipping weight	jacketed ▼Trade Price with standard equipment	jacketed approx. shipping weight	chimney size
FR-A-706-SO-B	1160	10.55	870.2	3626	1.333	$2242.00	4970	$2363.00	5146	16 x 16 x 30
FR-A-707-SO-B	1376	12.30	1041.6	4340	1.321	2473.00	5629	2611.00	5817	16 x 20 x 35
FR-A-708-SO-B	1580	14.15	1211.7	5049	1.304	2938.00	6441	3093.00	6752	16 x 20 x 35
FR-A-709-SO-B	1812	16.35	1403.6	5848	1.291	3143.00	7228	3410.00	7450	20 x 20 x 40
FR-A-710-SO-B	2020	18.15	1568.3	6535	1.288	3467.00	7915	3655.00	8154	20 x 20 x 45
FR-A-711-SO-B	2228	20.20	1729.8	7208	1.288	3690.00	8560	3894.00	8816	20 x 20 x 55
FR-A-712-SO-B	2440	21.95	1894.4	7893	1.288	4248.00	9266	4470.00	9536	20 x 24 x 60
FR-A-713-SO-B	2720	24.10	2111.8	8799	1.288	4458.00	9952	4697.00	10242	20 x 24 x 70
FR-A-714-SO-B	3000	26.30	2329.2	9705	1.288	4768.00	10680	5023.00	10990	24 x 24 x 80

▲American-Standard should be consulted before selecting an FR boiler-burner unit for installations having unusual piping and pick-up requirements

•Nozzle sizes, gph, furnished with the above units: FR-A-706, 1 5.00 & 1 5.50 80° S; FR-A-707, 2 6.00 80° S, FR-A-708, 1 2.00 & 2 6.00 90° S, FR-A-709, 1 3.00 & 2 6.50 90° S; FR-A-710, 2 9.00 70° S; FR-A-711, 2 10.00 70° S; FR-A-712, 2 6.00 & 1 10.00 80° S; FR-A-713, 2 6.00 & 1 12.00 80° S, FR-A-714 1 8.00 & 2 9.00 80° S.

Start-up and one year service available. Price on application.



Standard equipment:

Pedestal mounted oil burner with 2-stage fuel unit; on 96A-M-7543-B and 970-8111-B burners, factory installed cad cell, bracket and leads: R8184B light sensing primary control. On 96A-T burners, RA890 Protectorelay and Q270A base, C7013A photocell; on 97A Hi-Lo and 98A Hi-Lo burners, R4150A Flame Safeguard control — provides prepurge and postpurge, Q520A base, C7013A photocell. Delayed oil valve (2 with 96-A-T). Delayed and instantaneous valves with 97A Hi-Lo and 98A Hi-Lo.

boiler-burner unit number	oil burner	standard motor voltage
FR-A-706, FR-A-707	96A-M-7543-B	115/60/1
FR-A-708	96A-T-7935-K	115/60/1
FR-A-709	96A-T-7937-K	115/60/1
FR-A-710, FR-A-711	970-8111-B	115/60/1
FR-A-712, FR-A-713	97A Hi-Lo-7673-E	230/60/1
FR-A-714	98A Hi-Lo-7773-E	230/60/1

12" cast iron base on all units. In addition, 8" high steel pedestal base is furnished with 8 through 14 section units.

Draft regulator.

Water: L4080B Aquastat limit control
Nozzles
ASME relief valve
Pressure and temperature gauge

Steam: PA404A Pressuretrol
Nozzles
ASME safety valve
Steam gauge
Gauge glass with trimmings

Optional equipment: See page 33.

Combustion chamber not furnished. See Installation-Operation and Maintenance Manual for combustion chambers required for FR-A-7 boiler-burner units.

Note: For Optional Electronic Flame Safeguard Control Equipment, See Page 33.

Ordering Examples:

1 *Boiler-burner unit for steam jacketed with standard equipment*
1 FR-A 710 SO B boiler burner unit

2 Boiler-burner unit for water less jacket with optional equipment
1 FR A-707 WO B boiler-burner unit with electronic flame safeguard controls to meet Factory Mutual Approval.

▼ See page 56

01884

A-5 OIL FIRED BOILERS

This boiler is designed for large residences, apartment and commercial buildings.
Tested and equipped for 50 lbs. water working pressure.



WATER

boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price	approx. shipping weight	chimney size
For Built-in Water Heaters, Steam and Water Boilers, see page 28.							
A-504-W(T)	261	2.55	227.0	1513	$ 744.00	1518	8 x 12 x 15
A-505-W(T)	346	3.30	300.9	2006	855.00	1770	8 x 12 x 20
A-506-W(T)	426	4.00	370.4	2469	974.00	2025	12 x 12 x 20
A-507-W(T)	508	4.75	441.7	2944	1097.00	2282	12 x 12 x 20
A-508-W(T)	588	5.55	511.3	3408	1215.00	2539	12 x 16 x 25
A-509-W(T)	668	6.30	580.9	3872	1332.00	2794	12 x 16 x 25
A-510-W(T)	748	7.00	650.4	4336	1455.00	3050	12 x 16 x 25
A-511-W(T)	830	7.65	721.7	4811	1580.00	3298	16 x 16 x 30

STEAM

boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	net I=B=R rating		▼ Trade Price	approx. shipping weight	chimney size
			Mbh	sq ft steam			
A-504-S(T)	261	2.55	195.8	816	$ 744.00	1519	8 x 12 x 15
A-505-S(T)	346	3.30	259.6	1082	855.00	1771	8 x 12 x 20
A-506-S(T)	426	4.00	319.6	1332	974.00	2027	12 x 12 x 20
A-507-S(T)	508	4.75	381.1	1588	1097.00	2284	12 x 12 x 20
A-508-S(T)	588	5.55	441.1	1838	1215.00	2541	12 x 16 x 25
A-509-S(T)	668	6.30	501.1	2088	1332.00	2796	12 x 16 x 25
A-510-S(T)	748	7.00	561.1	2338	1455.00	3052	12 x 16 x 25
A-511-S(T)	830	7.65	622.7	2594	1580.00	3300	16 x 16 x 30

Suffix "T" denotes boiler with openings in center sections for tankless heaters.

Standard equipment:

Water: ASME relief valve
Pressure and temperature gauge
Drain valve

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings
Drain valve

Ordering Examples:

1. Boiler only for steam with standard equipment:
   1 A-507-S boiler.
2. Boiler only for water with optional equipment:
   1 A-506-W boiler with jacket extension

Optional equipment:

Cover plate required to close unused water heater openings will be furnished only if specified on order for "T" type boiler at added charges as follows:
Trade Price each **$4.00**

Zone valve packages are available for water boilers. For details and prices, see page 34.

Oil Burners available on special order .....Price on Application

Jacket extension: Specify on order and add **$41.50** to Trade Price of boiler or unit. Jacket extension provides 25" enclosure in front for concealment of oil burner and controls. Approximate shipping weight 57 lbs.

A-5 OPTIONAL EQUIPMENT

HEAT LIB-O-RATOR MOLDED REFRACTORY COMBUSTION CHAMBERS

unit number	Heat Lib-O-Rator model No. included	maximum firing rate gallons per hour	▼ Trade Price	approx. shipping weight
A-504	14-A	2.55	$38.00	158
A-505	15-A	3.30	$38.00	163
A-506	15-AA	4.00	47.00	176
A-507, A-508	16-A	5.55	47.00	180
A-509, A-510, A-511	17-A	7.65	55.00	200

▼ See page 56

A-7 OIL FIRED BOILERS

Ideal for commercial and industrial buildings. Available with or less jacket. Tested and equipped for 50 lbs. water working pressure.

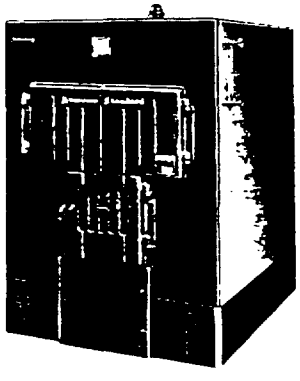
WATER

boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	net I=B=R rating Mbh	▲ piping & pick-up factor	net rating sq. ft. water	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-WO	866	8.15	753.0	1.15	5020	$1723.00	4186	$1827.00	4358	16 x 16 x 28
A-706-WO	1012	9.55	880.0	1.15	5866	1879.00	4787	2001.00	4963	16 x 16 x 30
A-707-WO	1196	11.25	1040.0	1.15	6933	2112.00	5445	2249.00	5633	16 x 20 x 36
A-708-WO	1376	12.90	1196.5	1.15	7978	2334.00	6029	2489.00	6240	16 x 20 x 42
A-709-WO	1570	14.65	1365.2	1.15	9101	2539.00	6669	2710.00	6891	16 x 20 x 45
A-710-WO	1760	16.30	1530.4	1.15	10202	2752.00	7330	2939.00	7569	20 x 20 x 50
A-711-WO	1956	18.00	1700.9	1.15	11339	2974.00	7956	3179.00	8212	20 x 20 x 55
A-712-WO	2148	19.65	1867.8	1.15	12452	3155.00	8616	3376.00	8886	20 x 20 x 60
A-713-WO	2340	21.45	2034.8	1.15	13565	3343.00	9278	3603.00	9568	20 x 24 x 70
A-714-WO	2532	23.20	2201.7	1.15	14678	3559.00	9944	3812.00	10254	20 x 24 x 80

STEAM

boiler number	gross I=B=R output Mbh	I=B=R burner capacity gph	net I=B=R rating Mbh	net I=B=R rating sq ft steam	▲ piping & pick-up factor	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-SO	866	8.15	649.7	2707	1.333	$1723.00	4187	$1827.00	4359	16 x 16 x 28
A-706-SO	1012	9.55	759.2	3163	1.333	1879.00	4788	2001.00	4964	16 x 16 x 30
A-707-SO	1196	11.25	897.2	3738	1.333	2112.00	5447	2249.00	5635	16 x 20 x 36
A-708-SO	1376	12.90	1041.6	4340	1.321	2334.00	6030	2489.00	6241	16 x 20 x 42
A-709-SO	1570	14.65	1203.1	5013	1.305	2539.00	6673	2710.00	6895	16 x 20 x 45
A-710-SO	1760	16.30	1361.2	5672	1.293	2752.00	7334	2939.00	7573	20 x 20 x 50
A-711-SO	1956	18.00	1518.6	6328	1.288	2974.00	7957	3179.00	8213	20 x 20 x 55
A-712-SO	2148	19.65	1667.7	6949	1.288	3155.00	8617	3376.00	8887	20 x 20 x 60
A-713-SO	2340	21.45	1816.8	7570	1.288	3343.00	9279	3603.00	9569	20 x 24 x 70
A-714-SO	2532	23.20	1965.8	8191	1.288	3559.00	9945	3812.00	10255	20 x 24 x 80

▲ The net I=B=R ratings shown are based on piping and pick-up allowances listed in the column next to the ratings. American Standard should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.



Standard equipment:

Water: ASME relief valve
Pressure and temperature gauge

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings

Optional Equipment:

Steel pedestal bases for installation under the regularly furnished 12 inch cast iron base for greater base heights are available on order at the following added charges:

section size	base height	▼ Trade Price
5 thru 7	8"	$59.00
8 thru 14	10"	96.00

If steel pedestal base is not used, consideration should be given to the use of brick or masonry base as required.

For Additional Optional Equipment, See page 33.

Combustion chamber not furnished. See Installation-Operation and Maintenance Manual for combustion chambers required for A-7 boilers

Ordering Examples:

1 Boiler only with jacket for steam with optional equipment
1 A 711-SO boiler jacketed with steel pedestal base

2 Boiler only unjacketed for water with standard equipment
1 A 706-WO unjacketed

Note: Be sure to specify on order letter "O" after "S" or "W" or coal fired boiler will be supplied

A-7 AND FR-A-7 OPTIONAL EQUIPMENT

ELECTRONIC FLAME SAFEGUARD CONTROL EQUIPMENT

For Factory Mutual Approval requirements, special electronic flame safeguard controls are available with RA890 Protectorelay, W416A control panel (includes Q270A base and R488F switching relay), C7013A photocell. Delayed oil valve. (2 with 96A-T-7935-R and 96A-T-7937-R.) Oil burners to meet Massachusetts Code requirements — Price on application.

boiler-burner unit	burner model	▼ added Trade Price charge
FR-A-706, FR-A-707	96A-M-7543-L	$139.00
FR-A-708	96A-T-7935-R	46.00
FR-A-709	96A-T-7937-R	46.00
FR-A-710, FR-A-711	970-8111-R	139.00

NOTE: R4150A Flame Safeguard control on 97A Hi-Lo and 98A Hi-Lo burners used with FR-A-712, FR-A-713 and FR-A-714 units meets Factory Mutual Approval and Massachusetts code requirements.

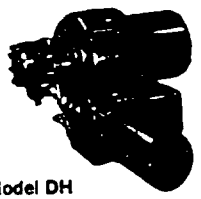
McDonnell & Miller low water cut-off and feeder combinations or low water cut-offs are available for FR-A-7 and A-7 steam units and boilers at added Trade Prices as follows:

unit or boiler no.	M & M no.	▼ Added Trade Price
FR-A-706:		
A-705 thru A-707	47-2	$ 72.70
FR-A-707 thru FR-A-713		
A-708 thru A-714	51-2	93.90
FR-A-714	51-S-2	106.00
A-7 and FR-A-7	369	25.23

Provision for special equalizer tapping (1" I.P.S. maximum) for bottom connection of 51-2 or 51-S-2 is located 12¼ inches below water line on front section.

Other temperature controls are shown on page 35.

FR-A-7 and A-7 external water heater tappings: two 1" tappings will be furnished on center sections for water boilers only. Lower tapping 23" from bottom of section. Center to center dimension between tappings is 27½". If desired specify on order and add $11.75 per "C" section to Trade Price of boiler.



Model DH

DH OIL BURNERS

The DH burner is designed and built to exacting standards for dependable and trouble free operation. The quiet motor and reliable controls are regularly furnished for 115 volt, 60 cycle power supply.

model number	capacity gal. per hour	air tube diam.	air tube length	mounting	▼ Trade Price with nozzle, includes factory installed cad cell: with no. 1 or no. 3 control set and primary control	▼ Trade Price with nozzle, includes factory installed cad cell: with primary control and nozzle	less cad cell	app. ship. weight ●with control set
DH-5	.55 - 3.00	4	5	sling	$155.00			55
DH-8	.65 - 3.00	4	8	pedestal	155.00	$137.00	$105.00	60
DH-15	.65 - 3.00	4	15	or	157.00	139.00	109.00	64
DH-23	.65 - 3.00	4	23	flange	159.00	141.00	111.00	68

boiler-burner unit	oil burner	controls
AP(T)	■DH-5	Primary control, cad cell and controls, except thermostat, factory installed. Draft regulator.
A-3 packaged unit	DH-5	
A-3 boiler unit	DH-5	Primary control, controls. Cad cell factory installed. Draft regulator.

Note: For A-3 units pressure ring is packed with DH-5 burner.

■DH-5 burners for AP(T) packaged units furnished with *refractory turbulator and are not interchangeable* with other DH-5 models.

Nozzles with Strainers for DH burners used with boiler-burner units: Solid cone 60° with AP(T), solid cone 70° with A-3 packaged or boiler-burner units.

Oil burners listed in this Price Book are approved by the National Board of Fire Underwriters, comply with U. S. Government Commercial Standard CS-75, and are for use with No. 1 or No. 2 fuelOil.

Capacities of oil burners using No. 1 or No. 2 fuelOil are for installations at sea level and at elevations up to 1,000 feet. Reduce by 4% for each additional 1,000 feet above sea level.

● Deduct from shipping weight of burner with control set:
less control set 3 lbs
less control set and primary control 9 lbs.

Disc-turbulator combinations for DH oil burner are as follows:

no.	firing rate gph
R1	.55-1.10
R2	1.00-1.85
1	.65-1.10
2	.90-1.75
3	1.80-2.50
4	2.35-3.00

Selection of nozzle:

firing rate gph	nozzle spray
.55 to 1.25	60°-70° hollow or solid
above 1.25	60°-70° solid

The correct disc-turbulator combination is furnished installed in the DH burner for nozzle size specified on order.

Two-stage fuel unit is available for DH oil burners at added Trade Price $6.15

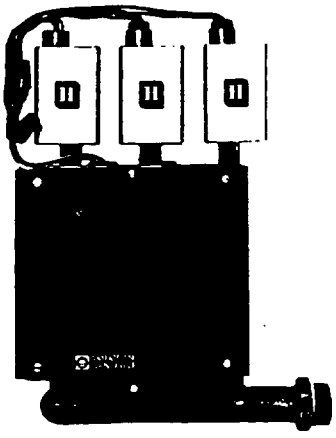
Controls and control sets are shown on page 35.

Ordering Examples
1. Oil Burner
1 DH-5 oil burner with No. 5 control set and 2.50 gph 70° solid nozzle for A-37M-WBT boiler-burner unit
2. Oil Burner
1 DH-23 oil burner with No. 3 control set, 1.50 gph 60° solid nozzle, with pedestal.

▼ See page 56

01887

COMFORT COMPUTER MODEL 370(R)



Illustrated is Comfort Computer-Zone Valve Package

The American Standard exclusive and unique Comfort Computer is a solid state control which modulates the boiler water temperature in proportion to the number and length of heat demands. This control and zone valve package is especially designed for use with American Standard Boilers. Benefits received are: improved comfort balance in living areas; reduction of wall streaking and expansion noises; and increased operating efficiency.

The Comfort Computer controls the operation of the burner to slow down the response of the boiler temperature to calls for heat by a zone thermostat. The control optimizes boiler water temperature and will not permit introduction of excessively hot water temperature to a zone. This control permits only those boiler water temperatures actually required by the heating system, yet permits high water temperatures during cold weather or during "pick-up" periods.

The Comfort Computer is designed for Gas Boilers without tankless heaters; and is available in two models, the 370 and the 370R. The model 370 is for use with installed boilers using a solenoid gas valve only; the 370R is for use with all modern gas fired hydronic heating systems.

▼Trade Prices are as follows:

370 ..... $40.00 370R $51.00

COMFORT COMPUTER — ZONE VALVE PACKAGE

The Comfort Computer is available combined with the zone valve package factory mounted and wired. When ordering the complete package the designation of the zone valve package is added to that of the Comfort Computer.

▼Trade Prices are: 370R-2Z— $132.50 370R-3Z— $159.00 370R-4Z— $199.00

HYDRONIC ZONE VALVE PACKAGES

No. Z-2 Package for 2 Zones

1 T822D thermostat
2 V8043F ¾" zone valves soldered to manifold
Less transformer
▼Trade Price $82.00

Each zone valve package consists of 2, 3, or 4 Honeywell ¾" zone valves soldered to manifold with 1¼" NPT inlet. Each zone valve is factory wired to low voltage leads for transformer and all end (auxiliary) switches are wired in parallel with a pre-wired harness. On-the-job wiring requires 115 volt line to transformer, low voltage connections to circulator control, and low voltage wiring to each thermostat.

No. Z-3 Package for 3 Zones

2 T822D thermostats
3 V8043F ¾" zone valves soldered to manifold
Less transformer
▼Trade Price $108.00

If ½" system piping is used, a ⅝ x ½ nominal copper to copper flush bushing can be soldered to any or all of the ¾" zone valves on the manifold. Flush bushing not furnished.

One less thermostat is furnished than the number of zone valves per package. An additional thermostat is required when zone valve package is used on boiler furnished less thermostat.

No. Z-4 Package for 4 Zones

3 T822D thermostats
4 V8043F ¾" zone valves soldered to manifold
With transformer
▼Trade Price $148.00

40 VA transformer is not required when control L8148G or R8226B with power for 3 zone valves, is supplied with boiler.

If 40 VA transformer is wanted with No. Z-2 or No. Z-3 Packages, specify on order and add to the above Zone Valve Package prices. ..... ▼Trade Price each $3.10

Honeywell V8043F ¾" Zone Valve sold separately ..... ▼Trade Price each $21.75

▼ See page 56

01888

CONTROL SETS FOR BOILER-BURNER UNITS

Control set	for	contents of control set: control number	contents of control set: description	add to Trade Price of oil burner with basic control set
no. 1 steam	boiler without domestic hot water	T822D PA404A	Thermostat Pressuretrol	
no. 2 steam	boiler with year-round domestic hot water, tankless heater	T822D PA404A L4006A	Thermostat Pressuretrol Aquastat operating control	$14.05
no. 3 gravity water	boiler without domestic hot water, immersion control	T822D L4080B	Thermostat Aquastat limit control	
no. 4 forced water	boiler without domestic hot water	T822D L4081B	Thermostat Aquastat limit and circulator control	$11.00
no. 5 forced water	A-3, A-5, FR-A-5 units only with year-round domestic hot water	T822D L8124C	Thermostat Aquastat limit, reverse and operating control, circulator relay	$22.40
no. 5-Z forced water	A-3, A-5, FR-A-5 units only. (1 no. 5-Z set is required for each zone in addition to the first zone which is controlled by the no. 5 control set or equivalent.)	T822D R845A	Thermostat Relay	$26.20

CONTROLS

number	description	▼ Trade Price
T822D	thermostat, adjustable heater 0.18 to 0.8 amp.	$ 6.85
TS822A	thermostat, millivolt	6.85
T832A	thermostat, low voltage, manual turndown	25.30
T852A	thermostat, electric clock	40.10
L4006A	Aquastat operating control	14.05
L4006E	Aquastat operating control; locks out on high limit setting; manual reset	16.15
L4081B	Aquastat limit and circulator control	20.90
L4080D	Aquastat limit control	10.60
L4080B	Aquastat limit control	10.60
L6006A	Aquastat operating and circulator control	14.90
	Aquastat limit, reverse and operating control, circulator relay:	
L8124C	line voltage burner control, horizontal case for gas or oil	32.30
L8124B	millivolt burner circuit for gas with manual-auto switch, vertical case	29.40
L8124E	low voltage burner circuit for gas, vertical case. Power for 2 zone valves	31.80
	Aquastat-relay combination, high limit and line voltage circulator control, horizontal case:	
L404C	Pressuretrol w/man. reset	28.20
L604A	SPDT operating controller	25.40
L8148E	low voltage burner control for gas. Power for 2 zone valves.	22.35
L8048G	millivolt burner control for gas. Power for 3 zone valves.	22.35

number	description	▼ Trade Price
PA404A	Pressuretrol	$16.10
RA89A	relay, SPST	15.35
RA832A	relay, DPST	19.35
R845A	relay, DPST	19.35
R8226B	Transformer and circulator relay	10.60
R8182D	Aquastat-relay combination, high and low limit; providing room thermostat control of circulator: light sensing primary control, less cad cell; safety switch timing 70 seconds. For use with tankless.	54.50
R8182E	Aquastat combination, high limit; providing room thermostat control of circulator: light sensing primary control, less cad cell; safety switch timing 70 seconds. For use less tankless.	50.00
R8182F	Aquastat combination, high limit: providing room thermostat control of burner and boiler water temperature control of circulator; light sensing primary control, less cad cell; safety switch timing 70 seconds. For use less tankless.	44.60
R8184G	light sensing primary control, less cad cell:	
	control number: R8184G1005; safety-switch timing-seconds: 60; gph: 3	30.00
	R8184G1021; 30; 3-7	32.95
	R8184G1013; 15; 7-20	36.80
120320	cadmium sulfide cell only	2.20

Accessories and controls included in this price book are for use in conjunction with American-Standard products

▼ See page 56

A-7 STOKER FIRED BOILERS

The standard for commercial and industrial building application. Available with or less jacket. Tested and equipped for 50 lbs. water working pressure.

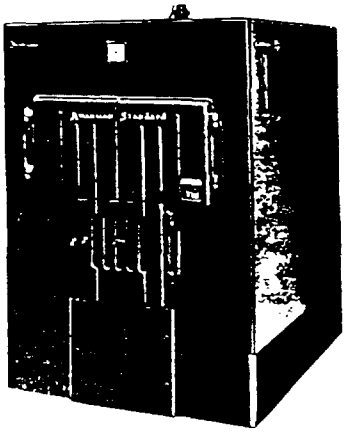
WATER

boiler number	gross I=B=R output Mbh	I=B=R burner capacity lbs./hr.	▲ net I=B=R rating Mbh	▲ piping & pick-up factor	net rating sq. ft. water	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-WC	866	95	753.0	1.15	5020	$1723.00	4120	$1827.00	4292	16 x 16 x 28
A-706-WC	1012	111	880.0	1.15	5866	1879.00	4775	2001.00	4950	16 x 16 x 30
A-707-WC	1196	131	1040.0	1.15	6933	2112.00	5436	2249.00	5619	16 x 20 x 36
A-708-WC	1376	151	1196.5	1.15	7978	2334.00	6017	2489.00	6226	16 x 20 x 42
A-709-WC	1570	172	1365.2	1.15	9101	2539.00	6693	2710.00	6908	16 x 20 x 45
A-710-WC	1760	194	1530.4	1.15	10202	2752.00	7370	2939.00	7589	20 x 20 x 50
A-711-WC	1956	215	1700.9	1.15	11339	2974.00	7972	3179.00	8233	20 x 20 x 55
A-712-WC	2148	236	1867.8	1.15	12452	3155.00	8610	3376.00	8908	20 x 20 x 60
A-713-WC	2340	257	2034.8	1.15	13565	3364.00	9323	3603.00	9593	20 x 24 x 70
A-714-WC	2532	278	2201.7	1.15	14678	3557.00	10013	3812.00	10283	20 x 24 x 80

STEAM

boiler number	gross I=B=R output Mbh	I=B=R burner capacity lbs./hr.	net I=B=R rating Mbh	net I=B=R rating sq. ft. steam	net I=B=R rating ▲ piping & pick-up factor	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-SC	866	95	649.7	2707	1.333	$1723.00	4121	$1827.00	4293	16 x 16 x 28
A-706-SC	1012	111	759.2	3163	1.333	1879.00	4776	2001.00	4951	16 x 16 x 30
A-707-SC	1196	131	897.2	3738	1.333	2112.00	5438	2249.00	5621	16 x 20 x 36
A-708-SC	1376	151	1041.6	4340	1.321	2334.00	6018	2489.00	6227	16 x 20 x 42
A-709-SC	1570	172	1203.1	5013	1.305	2539.00	6697	2710.00	6912	16 x 20 x 45
A-710-SC	1760	194	1361.2	5672	1.293	2752.00	7374	2939.00	7593	20 x 20 x 50
A-711-SC	1956	215	1518.6	6328	1.288	2974.00	7973	3179.00	8234	20 x 20 x 55
A-712-SC	2148	236	1667.7	6949	1.288	3155.00	8611	3376.00	8909	20 x 20 x 60
A-713-SC	2340	257	1816.8	7570	1.288	3364.00	9324	3603.00	9594	20 x 24 x 70
A-714-SC	2532	278	1965.8	8191	1.288	3557.00	10014	3812.00	10284	20 x 24 x 80

▲ The net I=B=R ratings shown are based on piping and pick-up allowances listed in the column next to the ratings. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.



Standard equipment:

Water: ASME relief valve
Pressure and temperature gauge

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings

Optional equipment:

Steel pedestal bases for installation under the regularly furnished 12 inch cast iron base for greater base heights are available on order at the following added charges:

section size	base height	▼ Trade Price
5 thru 7	8"	$59.00
8 thru 14	10"	96.00

If steel pedestal base is not used, consideration should be given to the use of brick or masonry base as required.

For additional optional equipment see page 33.

Ordering Example:
Stoker boiler for water with jacket with optional equipment.
1 A-708-WC jacketed boiler, with steel pedestal base.

A-7 HAND FIRED BOILERS

Jacketed and unjacketed
Tested and equipped for 50 lbs. water working pressure

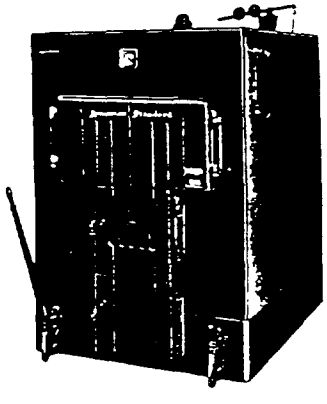
WATER

boiler number	gross I=B=R output Mbh	net I=B=R rating Mbh	▲ piping & pick-up factor	net rating sq. ft. water	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-W	1122	625.4	1.794	4169	$1897.00	4546	$2002.00	4718	16 x 16 x 40
A-706-W	1298	744.3	1.744	4962	2064.00	5270	2185.00	5545	16 x 20 x 45
A-707-W	1510	894.0	1.689	5960	2296.00	6025	2434.00	6208	20 x 20 x 50
A-708-W	1708	1042.1	1.639	6947	2533.00	6679	2688.00	6888	20 x 20 x 55
A-709-W	1910	1202.0	1.589	8013	2709.00	7508	2880.00	7643	20 x 20 x 60
A-710-W	2108	1363.5	1.546	9090	2895.00	8170	3084.00	8389	20 x 24 x 65
A-711-W	2288	1518.2	1.507	10122	3117.00	8848	3322.00	9109	20 x 24 x 70
A-712-W	2456	1667.3	1.473	11115	3280.00	9565	3501.00	9863	24 x 24 x 75

STEAM

boiler number	gross I=B=R output Mbh	net I=B=R Mbh	net I=B=R sq. ft. steam	net I=B=R ▲ piping & pick-up factor	unjacketed ▼ Trade Price	unjacketed approx. shipping weight	jacketed ▼ Trade Price	jacketed approx. shipping weight	chimney size
A-705-S	1122	625.4	2606	1.794	$1897.00	4561	$2002.00	4733	16 x 16 x 40
A-706-S	1298	744.3	3101	1.744	2064.00	5285	2185.00	5460	16 x 20 x 45
A-707-S	1510	894.0	3725	1.689	2296.00	6036	2434.00	6219	20 x 20 x 50
A-708-S	1708	1042.1	4342	1.639	2533.00	6692	2688.00	6901	20 x 20 x 55
A-709-S	1910	1202.0	5008	1.589	2709.00	7521	2880.00	7656	20 x 20 x 60
A-710-S	2108	1363.5	5681	1.546	2895.00	8183	3084.00	8402	20 x 24 x 65
A-711-S	2288	1518.2	6326	1.507	3117.00	8861	3322.00	9122	20 x 24 x 70
A-712-S	2456	1667.3	6947	1.473	3280.00	9582	3501.00	9880	24 x 24 x 75

▲ The net I=B=R ratings shown are based on piping and pick-up allowances listed in the column next to the ratings. American-Standard should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.



Standard equipment:

Water: ASME relief valve
Pressure and temperature gauge
Automatic damper regulator
Firing tools

Steam: ASME safety valve
Steam gauge
Gauge glass with trimmings
Automatic damper regulator
Firing tools

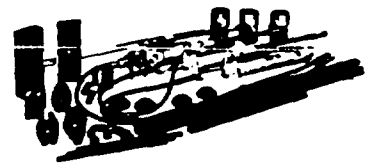
Ordering Example:

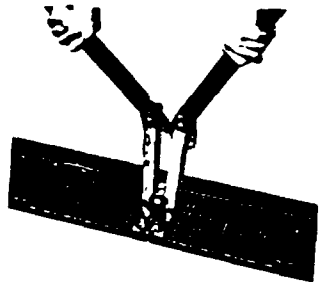
Hand fired boiler for water with jacket with standard equipment
1 A-706-W jacketed boiler

▼ See page 56

PACKAGED HYDRAULIC ASSEMBLING TOOL: All necessary parts to assemble any American-Standard sectional boiler, except long tie rods, are shipped in one packing case; the long tie rods are furnished in their own wooden box. Total weight approximately 250 lbs.

▼ Trade Price – $400.00



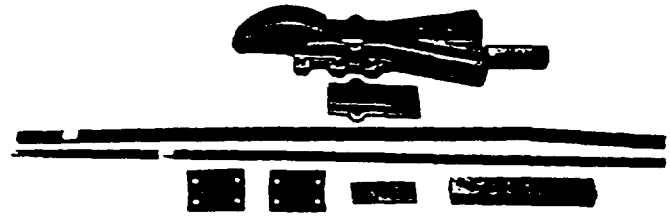


RADIANTRIM ASSEMBLY CLAMP: This tool is designed to draw Radiantrim cast iron baseboard sub-assembled panels or sections together with ease as per instructions included. Order through your American-Standard distributor.

▼ Trade Price each – $10.75

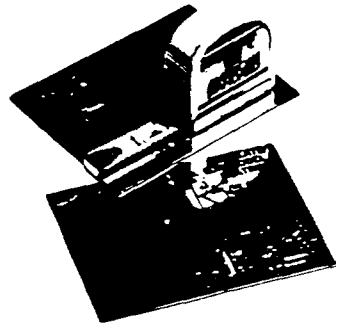
HEATRIM COPPER TUBE BENDING TOOL: This tool is specifically designed to bend riser tube connections for Model R Heatrim baseboard panels. Eliminates costly copper fittings. Complete instructions for tool use included.

▼ Trade Price each – $14.55



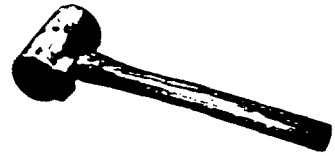
HEATRIM RISER HOLE TEMPLATE: This tool accurately and quickly locates riser hole locations for Model R Heatrim panels. Consists of template (two pieces), 8 ft. steel tape and complete instructions.

▼ Trade Price each — $2.90



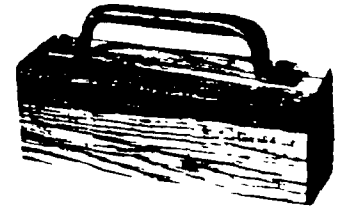
ALUMINUM NIPPLE-SETTING-HAMMER: —consists of a 2 lb. 2½" diameter aluminum head and a 14" long hardwood handle. The aluminum head will not damage the nipple edges and permits the heavy blows necessary to set nipples to the recommended depth quickly.

▼ Trade Price each – $4.75



SECTION BUMPING BLOCK: — made of a 6" x 6" x 18" hardwood block with a convenient steel handle for swinging the tool. Its purpose is to bump a section onto the pre-set nipples of the previous section to the recommended depth, prior to pulling the section up, with one or two blows without damage to the section.

▼ Trade Price each – $14.00



▼ See page 56

ELECTRA II PACKAGED ELECTRO-HYDRONIC BOILERS

Completely packaged with deluxe two-toned brown and beige jacket.

Pre-wired for 240 volt, three wire, 60 cycle, single phase service.

Designed and equipped with controls for forced circulation.

Tested and equipped for 30 lbs. water working pressure.

Underwriters Laboratories Inc. LISTED ELECTRIC CENTRAL HEATING BOILER WITH INTEGRAL LIMIT CONTROL E38076 NO. 0000000

WATER ONLY

packaged unit number	output watts	■ output btuh	amps @ 240 volts	▼ Trade Price with standard equipment	approx. shipping weight
EP-7	2,000	6,826	8.34	**$193.00**	49
EP-10	3,000	10,236	12.50	**193.00**	49
EP-14	4,000	13,648	16.65	**193.00**	49
EP-17	5,000	17,060	20.81	**193.00**	49
EP-20	6,000	20,472	25.00	**193.00**	49



Standard equipment

T822D thermostat
Circulator with piping
Drain valve
ASME relief valve
Pressure and temperature gauge
Expansion tank (diaphragm type)
L4080D immersion limit control
J. W. Hobbs M4440 low pressure switch
Automatic air vent

■ Output ratings based on 240 volts. Reduce output ratings for other voltages as follows: 230 volts, 8%; 220 volts, 16%; 208 volts, 25%

All electrical controls, circulator, expansion tank, pressure and temperature gauge, automatic air vent, and drain valve, are factory installed and wired. Thermostat and relief valve shipped in accessory bag fastened inside boiler carton.

Zone valve packages are available for water boilers. For details and prices, see page 34.

Ordering Example:
EP Packaged Boiler
with standard equipment
1 EP-14 boiler

▼ See page 56

01893

"ELECTRA"

Underwriters Laboratories Inc.
LISTED
ELECTRIC CENTRAL HEATING AND
WITH INTEGRAL LIMIT CONTROL
E38076 No. 000 000

EP PACKAGED ELECTRO-HYDRONIC BOILER

For the ultimate in modern electric heating, choose the "Electra," a completely assembled, pre-wired, hydronic heating cast iron boiler.

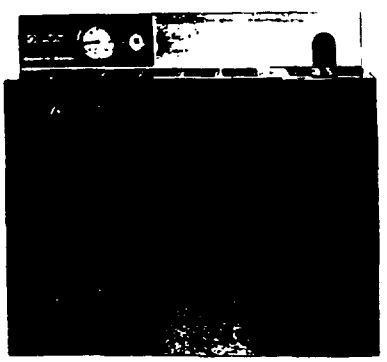
Designed for ultra-safe operation and equipped with controls for forced circulation.

Attractive two-toned brown and beige jacket completely conceals all components including the circulating pump and expansion tank.

Rugged boiler shell is tested and equipped for 30 lbs. water working pressure and unit is arranged for 240 volt, three wire, 60 cycle, single phase service.

WATER

packaged boiler number	number of elements	output watts	■ output btuh	amps @ 240 volts	▼Trade Price with standard equipment	approx. shipping weight
EP-34	2	10,000	34,130	41.7	$387.00	98
EP-51	3	15,000	51,195	62.4	400.00	99
EP-68	4	20,000	68,260	83.2	416.00	100
EP-82	5	24,000	81,912	100.0	431.00	102



Standard equipment

T822D thermostat

AT72D low voltage transformer

R8154 sequencing control

L4008J adjustable immersion type limit control

Allen-Bradley 836CP11-HKAZS High pressure switch with EP-68 and EP-82 only

J. W. Hobbs M4440 Low pressure switch

1¼" circulator

Expansion tank (diaphragm type)

Automatic air vent

ASME Relief valve

Pressure and temperature gauge

Drain valve

Note: EP Electric Boilers are shipped with jacket and all controls (except thermostat and relief valve) factory installed and wired. Circulator and expansion tank are factory installed and enclosed in the jacket. Thermostat, relief valve and nipple, and circulator flange and gasket shipped in accessory bag fastened inside boiler carton.

■ Output ratings based on 240 volts. Reduce output ratings for other voltages as follows: 230 volts, 8%; 220 volts, 16%; 208 volts, 25%.

Optional equipment

Sequencer Package: Available for field installation on EP-68 and EP-82 Boilers in addition to regularly furnished sequencing relay. Package contains all necessary equipment and instructions for the installation of one (EP-68) or two (EP-82) 24A11-4 Sequencer(s) which will provide a 45 second current delay between the third and fourth elements of the EP-68 or between the third, fourth and fifth elements of the EP-82. Standard R8154 relay provides a 1/120th of a second (½ cycle) current delay between each element.

Sequencer Package	▼Trade Price
EP-68	$11.13
EP-82	21.47

Note: Zone valve packages are available for water boilers. For details and prices, see page 34.

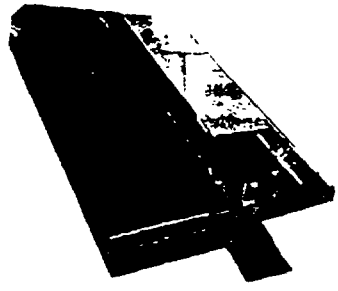
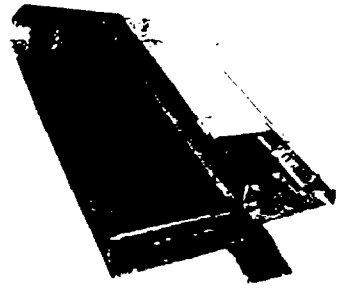
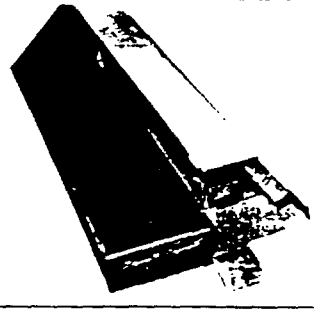
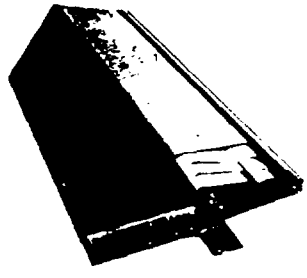
Ordering Example:
EP Packaged Boiler
with standard equipment
1 EP-68 boiler

▼ See page 56

01894

MODEL R HEATRIM PANELS

SEE CURRENT LITERATURE FOR APPROVED I=B=R HOT WATER RATINGS
(For ¾" Model R-750-A and ½" Model R-500-A Panels)

	DESCRIPTION	ordering number	packaged per	▼ Trade Price	approx. shipping weight
	**MODEL R-750-A COMPLETE ASSEMBLED UNITS** (Single Pack) Packed in a "pull tape" box, includes 1 each of front and back panel, ¾" element, damper, necessary support brackets, slide cradles and 1 set joining pieces. Finished with white prime paint. All factory assembled. Box Color Coded—Red **Ordering Example:** 1—box R-750-A4		*per lineal foot	$ 2.09	
		R-750-A2	2 ft. length	4.18	5
		R-750-A3	3 ft. length	6.27	7
		R-750-A4	4 ft. length	8.36	9
		R-750-A5	5 ft. length	10.45	12
		R-750-A6	6 ft. length	12.54	13
		R-750-A7	7 ft. length	14.63	16
		R-750-A8	8 ft. length	16.72	18
	**MODEL R-500-A COMPLETE ASSEMBLED UNITS** (Single Pack) Packed in a "pull tape" box, includes 1 each of front and back panel, ½" element, damper, necessary support brackets, slide cradles and 1 set joining pieces. Finished with white prime paint. All factory assembled. Box Color Coded—Green **Ordering Example:** 1—box R-500-A3		*per lineal foot	1.98	
		R-500-A2	2 ft. length	3.97	5
		R-500-A3	3 ft. length	5.95	7
		R-500-A4	4 ft. length	7.94	9
		R-500-A5	5 ft. length	9.92	11
		R-500-A6	6 ft. length	11.91	14
		R-500-A7	7 ft. length	13.89	15
		R-500-A8	8 ft. length	15.88	18
	**MODEL R ENCLOSURE ONLY—ASSEMBLED** (Single Pack) Packed in a "pull tape" box, includes 1 each of front and back panel, damper, necessary support brackets, slide cradles and 1 set joining pieces. Finished with white prime paint. All factory assembled. Box Color Coded—Black **Ordering Example:** 1—box R-3-A		*per lineal foot	1.02	
		R-3-A	3 ft. length	3.06	6
		R-4-A	4 ft. length	4.07	8
		R-5-A	5 ft. length	5.09	10
		R-6-A	6 ft. length	6.11	11
		R-7-A	7 ft. length	7.13	13
		R-8-A	8 ft. length	8.15	15
		R-10-A	10 ft. length	10.19	17
		R-12-A	12 ft. length	12.22	19
	**MODEL R ENCLOSURES ONLY—UNASSEMBLED** (Bulk Pack) Packed in a "pull tape" box, includes 3 sets of front and back panels, dampers with clips, necessary support brackets, slide cradles and 2 sets of joining pieces Finished with white prime paint Unassembled. Box Color Coded—Blue **Ordering Example:** 1—box R-5-B		*per lineal foot	.91	
		R-3-B	three 3' lengths	8.22	16
		R-4-B	three 4' lengths	10.96	21
		R-5-B	three 5' lengths	13.70	26
		R-6-B	three 6' lengths	16.44	30
		R-7-B	three 7' lengths	19.18	35
		R-8-B	three 8' lengths	21.92	40
		R-10-B	three 10' lengths	27.41	48
		R-12-B	three 12' lengths	32.89	58

*For comparative and estimating purposes only

01895

▼ See page 56

R-7504-A Assembled

Single Pack R
Bulk Element

Bulk Pack R
Bulk Element

Net Price	1.59	1.63	1.54
Net less 10%	1.43	1.47	1.39
Net less 10-5%	1.36	1.39	1.32
Net less 10-10%	1.28	1.32	1.25
Net less 10-10-5%	1.22	1.25	1.19
Net less 10-10-10%	1.16	1.19	1.12
Net less 30%	1.11	1.14	1.08
Net less 10-10-10-5%	1.10	1.13	1.07
Net less 30-5%	1.06	1.08	1.02
Net less 10-10-10-5-5%	1.05	1.07	1.01
Net less 30-5-5%	1.02	1.04	.99

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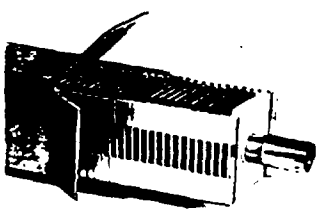
MODEL R HEATRIM ELEMENTS AND ACCESSORIES



DESCRIPTION	ordering number	packaged per	Trade Price	approx. shipping weight
		*per lineal foot	$ 1.12	
E-750 (¾" tube) **ELEMENTS ONLY** (Bulk Pack) Individually boxed and strapped into a bundle of six equal lengths. **Ordering Example:** 1–bundle E-750-3	E-750-3	six 3' lengths	20.22	9
	E-750-4	six 4' lengths	26.96	12
	E-750-5	six 5' lengths	33.71	16
	E-750-6	six 6' lengths	40.45	18
	E-750-7	six 7' lengths	47.19	22
	E-750-8	six 8' lengths	53.93	25
		*per lineal foot	$ 1.02	
E-500 (½" tube) **ELEMENTS ONLY** (Bulk Pack) Individually boxed and strapped into a bundle of six equal lengths. **Ordering Example:** 1–bundle E-500-4	E-500-3	six 3' lengths	18.33	8
	E-500-4	six 4' lengths	24.44	10
	E-500-5	six 5' lengths	30.56	12
	E-500-6	six 6' lengths	36.67	16
	E-500-7	six 7' lengths	42.78	19
	E-500-8	six 8' lengths	48.89	21

ACCESSORIES

End Cap–3" wide–Right Hand	RA-ECR-03	box of 10	8.40	4
End Cap–3" wide–Left Hand	RA-ECL-03	box of 10	8.40	4
Valve Enclosure–4" wide–Right Hand	RA-VER-04	box of 10	11.55	9
Valve Enclosure–4" wide–Left Hand	RA-VEL-04	box of 10	11.55	9
Valve Enclosure–6" wide–Right Hand	RA-VER-06	box of 10	17.64	10
Valve Enclosure–6" wide–Left Hand	RA-VEL-06	box of 10	17.64	10
Inside Corner–hinged front and top–90°	RA-ICF-90	box of 10	10.50	3
Inside Corner–back piece–90°	RA-ICB-90	box of 10	3.36	4
Inside Corner–one-piece front and top–135°/45°	RA-ICF-45	box of 10	10.50	2
Inside Corner–back piece–135°/45°	RA-ICB-45	box of 10	3.20	2
Outside Corner–90°	RA-OCF-90	box of 10	12.60	5
Outside Corner–135°/45°	RA-OCF-45	box of 10	14.70	3
Filler piece set–7" wide	RA-FPS-07	box of 10	8.50	9
Filler piece set–14" wide	RA-FPS-14	box of 5	6.50	9
Wall End Piece–3" wide	RA-WEP-03	box of 10	4.41	4
Return tubing wire hangers	RA-WHR 50	bag of 50	2.10	—
Connecting tubing wire hangers	RA-WHS-50	bag of 50	2.21	—
Joining piece set–2" wide	RA-JPS-02	box of 20 sets	5.46	5
Extra support brackets with slide cradles and damper clips	RA-SBP-20	box of 20 sets	7.40	5
Tube bending tool	—	—	14.55	—
NOTE: Finished with white prime paint.				

*For comparative and estimating purposes only

NOTE: Add 25% to price when ordering in less than quantities indicated above

▼ See page 56

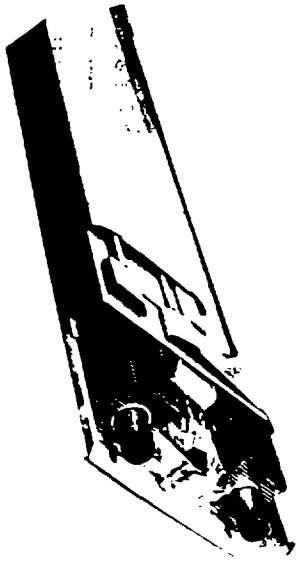
01898

MODEL SS HEATRIM PANELS, ELEMENTS AND ACCESSORIES

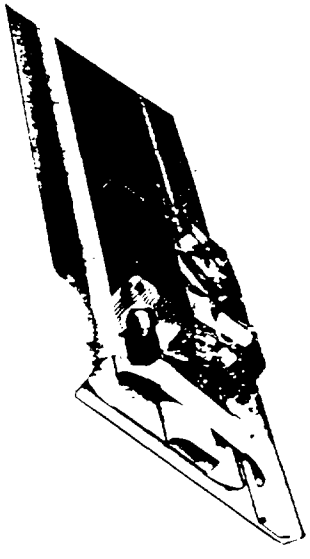
Commercial baseboard panels designed for hotels, motels, apartments, hospitals, schools and churches. The SS Heatrim is ideal for residential "hard to heat" areas such as bathrooms, hallways, etc.

SEE CURRENT LITERATURE FOR APPROVED I=B=R HOT WATER RATINGS

(For ¾" Model SS75 and 1" Model SS-100 Panels)



DESCRIPTION	ordering number	packaged per	▼ Trade Price	approx. shipping weight
MODEL SS-75 COMPLETE UNITS (Dual Pack)		*per lineal foot $ 3.20		
Box includes 2 each of front and back panel, ¾" element, damper, necessary support brackets and slide cradles and 1 joining piece set. Finished with off-white prime paint. **Ordering Example:** 1—box SS-75-6	SS-75-2	Two 2 ft. lengths	$12.80	14
	SS-75-3	Two 3 ft. lengths	19.20	20
	SS-75-4	Two 4 ft. lengths	25.60	26
	SS-75-5	Two 5 ft. lengths	32.00	33
	SS-75-6	Two 6 ft. lengths	38.40	39
	SS-75-7	Two 7 ft. lengths	44.80	46
	SS-75-8	Two 8 ft. lengths	51.20	52
MODEL SS-100 COMPLETE UNITS (Dual Pack)		*per lineal foot $ 3.55		
Box includes 2 each of front and back panel, 1" element, damper, necessary support brackets and slide cradles and 1 joining piece set. Finished with off-white prime paint. **Ordering Example:** 1—box SS-100-5	SS-100-2	Two 2 ft. lengths	14.20	14
	SS-100-3	Two 3 ft. lengths	21.30	20
	SS-100-4	Two 4 ft. lengths	28.40	26
	SS-100-5	Two 5 ft. lengths	35.50	33
	SS-100-6	Two 6 ft. lengths	42.60	39
	SS-100-7	Two 7 ft. lengths	49.70	46
	SS-100-8	Two 8 ft. lengths	56.80	52



MODEL SS1-75 COMPLETE UNITS (Single Pack)		*per lineal foot $ 3.35		
Box includes 1 each of front and back panel, ¾" element, damper, joining piece set and necessary support brackets and slide cradles. Finished with off-white prime paint. **Ordering Example:** 1—box SS1-75-7	SS1-75-2	2 ft. length	6.70	7
	SS1-75-3	3 ft. length	10.05	11
	SS1-75-4	4 ft. length	13.40	14
	SS1-75-5	5 ft. length	16.75	18
	SS1-75-6	6 ft. length	20.10	21
	SS1-75-7	7 ft. length	23.45	25
	SS1-75-8	8 ft. length	26.80	28
MODEL SS1-100 COMPLETE UNITS (Single Pack)		*per lineal foot $ 3.70		
Box includes 1 each of front and back panel, 1" element, damper, joining piece set and necessary support brackets and slide cradles. Finished with off-white prime paint. **Ordering Example:** 1—box SS1-100-6	SS1-100-2	2 ft. length	7.40	7
	SS1-100-3	3 ft. length	11.10	11
	SS1-100-4	4 ft. length	14.80	14
	SS1-100-5	5 ft. length	18.50	18
	SS1-100-6	6 ft. length	22.20	21
	SS1-100-7	7 ft. length	25.90	25
	SS1-100-8	8 ft. length	29.60	28

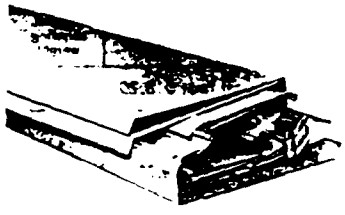
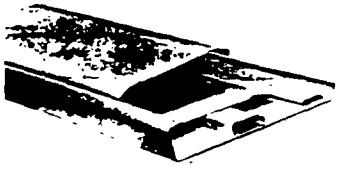
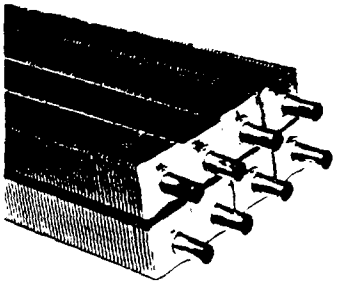
*For comparative and estimating purposes only

▼ See page 56

01899

MODEL SS HEATRIM ENCLOSURES, ELEMENTS AND ACCESSORIES

Commercial baseboard panels designed for hotels, motels, apartments, hospitals, schools and churches. The SS Heatrim is ideal for residential "hard to heat" areas such as bathrooms, hallways, etc.

	DESCRIPTION	ordering number	packaged per	▼ Trade Price	approx. shipping weight
	**MODEL SS ENCLOSURES ONLY** (Bulk Pack) Box includes 4 each of front and back panel, damper, necessary support brackets, connecting tube wire hangers and 3 joining piece sets. Finished with off white prime paint. **Ordering Example:** 1—box SS-8		*per lineal foot	$1.65	
		SS-3	Four 3 ft. lengths	$19.80	31
		SS-4	Four 4 ft. lengths	26.40	42
		SS-5	Four 5 ft. lengths	33.00	52
		SS-6	Four 6 ft. lengths	39.60	63
		SS-7	Four 7 ft. lengths	46.20	73
		SS-8	Four 8 ft. lengths	52.80	84
	**MODEL SS1 ENCLOSURES ONLY** (Single Pack) Box includes 1 each of front and back panel, damper, joining piece set, necessary support brackets and connecting tube wire hangers. Finished with off white prime paint. **Ordering Example:** 1—box SS1-6		*per lineal foot	$1.85	
		SS1-3	3 ft. length	$ 5.55	11
		SS1-4	4 ft. length	7.40	14
		SS1-5	5 ft. length	9.25	18
		SS1-6	6 ft. length	11.10	22
		SS1-7	7 ft. length	12.95	25
		SS1-8	8 ft. length	14.80	29
	**ES-75-8** (¾" tube) **ELEMENTS ONLY** (Bulk Pack) Box includes eight 8 foot lengths of ¾" element and necessary slide cradles. **Ordering Example:** 1—box ES-75-8		*per lineal foot	$1.55	
		ES-75-8	Eight 8 ft. lengths	$99.20	42
	ES-100-8 (1" tube) **ELEMENTS ONLY** (Bulk Pack) Box includes eight 8 foot lengths of 1" element and necessary slide cradles. **Ordering Example:** 1—box ES-100-8		*per lineal foot	$1.90	
		ES-100-8	Eight 8 ft. lengths	$121.60	48

ACCESSORIES

R. H. 2½" End Covers (Short of Floor)	SS-ECR-25S	Box of 12	$11.55	8
L. H. 2½" End Covers (Short of Floor)	SS-ECL-25S	Box of 12	11.55	8
R. H. 2½" End Covers (Extend to Floor)	SS-ECR-25F	Box of 12	14.70	9
L. H. 2½" End Covers (Extend to Floor)	SS-ECL-25F	Box of 12	14.70	9
R. H. 6" End Covers (Short of Floor)	SS-ECR-06S	Box of 12	15.75	7
L. H. 6" End Covers (Short of Floor)	SS-ECL-06S	Box of 12	15.75	7
R. H. 6" End Covers (Extend to Floor)	SS-ECR-06F	Box of 12	17.85	7
L. H. 6" End Covers (Extend to Floor)	SS-ECL-06F	Box of 12	17.85	7
Inside Corner Covers	SS-IC-90	Box of 12	7.35	5
R. H. Valve Enclosures with hinged access door	SS-VER-06H	Box of 12	31.50	13
L. H. Valve Enclosures with hinged access door	SS-VEL-06H	Box of 12	31.50	13
R. H. Valve Enclosures with hinged access door & knockout for mainless installation	SS-VERK-06H	Box of 12	32.00	13
L. H. Valve Enclosures with hinged access door & knockout for mainless installation	SS-VELK-06H	Box of 12	32.00	13
Wall End Pieces (Short of Floor)	SS-WEP-25S	Box of 12	4.75	4
Wall End Pieces (Extend to Floor)	SS-WEP-25F	Box of 12	5.25	4
Outside Corner Covers	SS-OC-90	Box of 4	12.60	5
14" Filler Pieces	SS-FPS-14	Box of 6	12.60	14
2" Joining Piece Sets	SS-JPS-02	Box of 24	5.30	4
Support Brackets, Slide Cradles, Damper Clips	SS-SBP-24	Box of 24	10.50	10
Return Pipe Hangers	SS-WHR-50	Box of 50	5.25	1
Damper Joiners	SS-DJ-50	Box of 50	3.95	1
Connecting Tube Hangers	SS-WHS-50	Box of 50	6.30	3

*For comparative and list mating purposes only

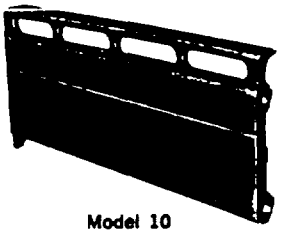
Note Add 25% to price when ordering in less than quantities indicated above

▼ See page 56

01900

RADIANTRIM BASEBOARD PANELS

SEE CURRENT LITERATURE FOR APPROVED I=B=R STEAM AND HOT WATER RATINGS



Model 10
Steam Rating per lineal foot 3.4 sq ft

per lineal foot	per square foot
▼Trade Price— $5.39	$1.58

Model 10 Radiantrim Panel lengths (2½ ft to 30 ft) are made up from the following sections:
1½ ft Left hand end section — 1 ft Right hand end section
2 ft Left hand end section — 2 ft Right hand end section
2 ft Center section

Assembly length with legs and tappings at each end:
1½ ft Double end section — 2 ft Double end section

For purpose of estimating shipping weights, use 4¼ pounds per sq. ft., 16.15 pounds per lineal foot.

Model 10 Accessories	▼Trade Price
Extension Panel with 3 Brackets	
Two 6 ft lengths per box	$17.72
★Extension Panel Retaining Bracket	.50
Extension Panel Cover Strip	.72
Assembly Clamp	11.83
Short–Compression Corner Connection	2.86
Long–Compression Corner Connection	3.85
★Retaining Block	.21
★Adjustable Leg	.30
★Tie Bolt	.11

★These items are regularly furnished as required with Model 10 Radiantrim Panels and Accessories. Prices are shown for repair or replacement purposes.

Packed in quantity of 10 per box (Available only in this minimum quantity)	▼Trade Price per box of 10
Inside Corner Cover	$17.60
Extended Inside Corner Cover	31.90
Outside Corner Cover	23.65
Valve Enclosure (all R.H. or L.H.)	24.20
End Box (all R.H. or L.H.)	13.20
10" Plain Extension Piece	15.38
Extension End Piece (all R.H. or L.H.)	9.46

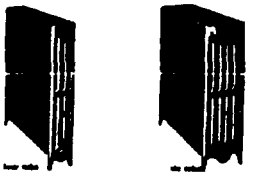
Ordering Example:
1–7 ft Model 10 Radiantrim Panel.
1–Box of Model 10 Right Hand Valve Enclosures.

EXTRA RADIANTRIM ACCESSORY BAGS

Bag No.	For	▼Trade Price
0	Double Leg Section	$ .95
1	2½'-6' Panel Length	1.19
2	6½'-12' Panel Length	2.54
3	12½'-18' Panel Length	3.78
4	18½'-24' Panel Length	4.97
5	24½'-30' Panel Length	6.39

Sufficient quantities of these bags are regularly furnished with Radiantrim Panels. Prices shown are for extra bags as may be required.

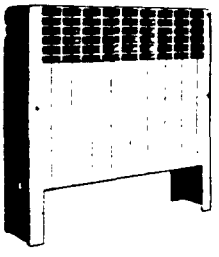
ARCO RADIATORS



width	height, inches	sq ft per section	▼Trade Price per sq ft
6 tube	32	3.7	$2.40
4, 6 tube	25	2.0, 3.0	1.88
4 tube	19	1.6	2.00

Arco Radiators are regularly furnished with two and one-half inch (2½") legs. Available on Special Order with four and one-half inch (4½") legs, or without legs—Price on application.
Arco Radiators sold only in even number of sections up to a maximum of 56 sections.
For purpose of estimating shipping weights, use 4½ pounds per sq. ft.

Ordering Example: 1–12 Section 25" Arco 4 Tube ½ x ½



SUNRAD® RADIATORS

Important: Increase size 5% for recessed installation—¾" air space top and sides, ½" at back. Increase size 15% for tightly recessed installation—no clearance top or sides, ½" air space at back.

type	sq ft per section	▼Trade Price per sq ft
M 5 x 20	2.25	$2.30

Sunrad Radiators are regularly furnished with legs and two-pipe inside connections. Available on special order with one-pipe connections, outside tappings or without legs–Price on application.

Sunrad Radiators sold in even number of sections from 4 to 30 sections, and in odd number of sections with center leg from 31 to a maximum of 45 sections.

Sunrad Grilles

Inlet—Stamped Lattice Type . . . per section $0.29
Special No. 16 Gauge with Locking Device . . . Price on application

For purposes of estimating shipping weights, use 6 pounds per sq ft

Ordering Example: 1–10 Section M5 x 20 Sunrad T-4 ½ x ½
1–Type M Sunrad Grille for above.

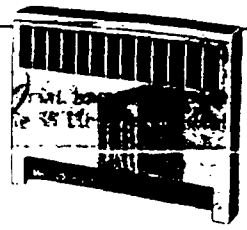
RADIATOR ACCESSORIES

	▼Trade Price each
Arco Brackets:	
For 4 and 6 tube, with Wall Plate	$1.21
Arco Radiator Pedestals	
½" and 1"	.47
1¼"	.59
Sunrad Brackets	.92
Nipples, Plugs, Bushings, etc.	
¾", 1", 1¼", 1½" Plugs, Bushings	.32
¾", 1", 1¼" Slip Nipples	.32
1/8" Air Vent Plugs	.02
Radiator Rod Nuts	.01
Radiator Rods, per section	.01

Above items available for use only with our Radiator products.

▼ See page 56

01901



MULTIFIN CONVECTORS

TYPE K — STOCK MODEL — FREE STANDING

Expanded prices

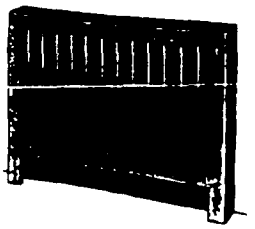
For use on two-pipe steam and hot water systems only.

cabinet length inches	No. 4 depth (4¼" cabinet)				No. 6 depth (6¼" cabinet)				No. 8 depth (8¼" cabinet)				No. 10 depth (10¼" cabinet)			
	unit no.	sq ft output	approx. shipping weight	▼ Trade Price	unit no.	sq ft output	approx. shipping weight	▼ Trade Price	unit no.	sq ft output	approx. shipping weight	▼ Trade Price	unit no.	sq ft output	approx. shipping weight	▼ Trade Price
20" cabinet height																
20	420–20	10.6	18	$21.85	620–20	14.9	21	$24.25	....	....	....	....	....	....	....	....
24	424–20	13.0	20	23.20	624–20	18.4	24	26.20	....	....	....	....	....	....	....	....
28	....	....	....	....	628–20	22.0	27	28.20	....	....	....	....	....	....	....	....
32	....	....	....	....	632–20	25.5	29	30.20	832–20	31.7	33	$33.65	....	....	....	....
36	....	....	....	....	636–20	29.0	33	32.15	836–20	36.0	37	36.05	1036–20	45.5	42	$41.40
40	....	....	....	....	640–20	32.5	34	34.10	840–20	40.4	39	38.50	1040–20	51.2	48	44.55
44	....	....	....	....	644–20	36.1	37	36.10	....	....	....		....	....	....	
48	..	....	..	....	648–20	39.6	40	38.10	848–20	49.2	46	43.45	1048–20	62.3	52	50.80
56	.	..	..	....	656–20	46.7	45	42.05	856–20	58.0	51	48.40	1056–20	73.4	58	57.00
64	....	.	....	....	664–20	53.8	52	46.05	864–20	66 9	59	53.35	1064–20	84.5	64	63.20
24" cabinet height																
20	420–24	12.1	20	$22.70	620–24	17.2	23	$25.55	....	....	....	....	....	....	....	...
24	424–24	14.9	22	24.25	624–24	21.2	26	27.75	....	....	....	....	....	....	....	...
28	428–24	17.8	25	25.85	628–24	25.4	30	30.10	....	....	....	....	....	....	....	....
32	...	....	....	....	632–24	29.5	33	32.45	832–24	35.6	38	$35.85	....	....	....	....
36	..	....	...	....	636–24	33.5	35	34.65	836–24	40.5	40	38.60	1036–24	49 0	45	$43.35
40	....	...	....	....	640–24	37.6	38	36.95	840–24	45.5	44	41.40	1040–24	55.2	52	46.80
44	.	.	..	....	644–24	41.7	42	39.25	....	....	....		....	....	....	
48	.	...	..	....	648–24	45.7	44	41.50	848–24	55.4	50	46.90	1048–24	67.1	62	53.50
56	..	..	..	....	656–24	53.9	50	46.10	856–24	65 2	55	52.40	1056–24	79 0	64	60.15
64		.	..	....	664–24	62.2	57	50.75	864–24	75.3	63	58.05	1064–24	91 0	71	66 85
32" cabinet height																
20	...	....	....	....	620–32	18.7	29	$26.35	....	....	....	....	....	....	....	....
24	..	...	....	....	624–32	23.1	32	28.85	....	....	....	....	....	....	....	...
28		..	....	....	628–32	27.7	36	31 40	....	....	....	....	....	....	....	.. .
32	.	....	....	....	632–32	32.1	40	33.90	832–32	40 9	45	$38.80	....	....	....	..
36		...	....	....	636–32	36.5	43	36.35	836–32	46 5	48	41.95	1036–32	55 0	54	$46 70
40	.	..	...	....	640–32	41 0	48	38.85	840–32	52.2	56	45.15	1040–32	61 9	59	50 55
44		.	..	....	644–32	45 4	56	41.30	....	....	....		....	....	....	
48			. .	....	648–32	49 8	58	43.80	848–32	63 6	65	51.50	1048–32	75 3	69	58.05
56			...	...	656–32	58 7	67	48.75	856–32	74 9	73	57.85	1056–32	88.7	76	65 55
64				...	664–32	67 8	71	53.85	864–32	86.5	76	64.35	1064–32	102 2	84	73 15

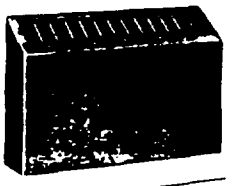
Plugs and bushings are not regularly furnished with Multifin Convectors, but are available for separate sale at prices shown on page 45.

Note: For stock model cabinet extras, see page 50.

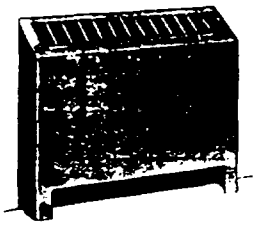
Ordering Example:
1–K-636-32 Multifin.



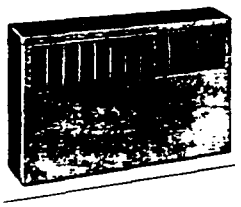
Type K (Stock Model)
Type F (Special Service)



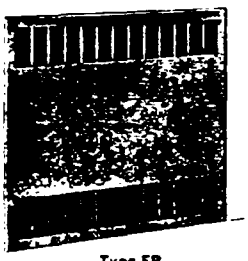
Type S



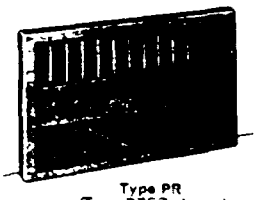
Type FS



Type W



Type FR
(Type FRGB shown)



Type PR
(Type PRGB shown)

MULTIFIN CONVECTORS

Combination Price:

The actual output in square feet of catalog rating–Steam (215°F.) obtained with the cabinet heights furnished determines the price of convectors and cabinets sold in combination.

The total price of each order equals the amount of catalog square feet ordered multiplied by the price per square foot, plus the unit extra charge multiplied by the total number of units ordered.

SEE CURRENT LITERATURE FOR STEAM AND HOT WATER RATINGS

cabinet type	description	▼ Trade Price per sq ft	▼ Trade Price unit extra charge
Stock Model			
K	Floor Type–free standing	$0.56	$15.90

Note: *Price shown for estimating purposes only. For expanded prices, see page 46. For cabinet extras, see page 50.*

Special Service			
F	Floor Type–free standing	$0.67	$19.28
FG	Floor Type–free standing–inlet grille	.67	22.15
W	Wall Hung–flat top	.67	19.28
FS	Free Standing–sloping top	.63	20.34
FSG	Free Standing–sloping top–inlet grille	.63	23.22
S	Wall Hung–sloping top	.63	18.32
FR	Fully recessed–$\frac{1}{16}$" beveled edges	.68	20.34
FRG	Fully recessed–$\frac{1}{16}$" beveled edges–inlet grille	.68	23.22
FRGB	Fully recessed–$\frac{1}{16}$" beveled edges–inlet grille with bottom overlap and liner bottom	.68	25.56
PR	Partially recessed–1½", 2½", 3", 5" flanged edges	.70	23.54
PRG	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille	.70	26.31
PRGB	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille–with bottom overlap and liner bottom	.70	33.76

Note: For cabinet extras, see page 50.

For estimating purposes only, the following approximate shipping weights per sq ft may be used for Multifin convectors:

Multifin stock model — 1.13 pounds. Also see page 46.
Multifin cabinets (less element) – 1½ pounds.
Multifin cabinets (with element):
Types F, FR, PR – 1⅘ pounds.
Types FS, W – 1½ pounds.
Type S – 1¼ pounds.

Ordering Examples:

Stock Model Multifin with an optional feature:
1 K-840-24 Multifin with Metal Trim Strips.

Special Service Multifin with an optional feature:
1 PR-640-32-2½ Flange, Multifin with Knob Damper.

▼ See page 56

MULTIFIN CONVECTORS — continued

Elements only (when sold less cabinets) — *two-pipe steam or hot water*

convector length inches	No. 4 depth			No. 6 depth			No. 8 depth			No. 10 depth		
	unit no.	approx. shipping weight	▼ Trade Price	unit no.	approx. shipping weight	▼ Trade Price	unit no.	approx. shipping weight	▼ Trade Price	unit no.	approx. shipping weight	▼ Trade Price
20	420	8	$12.60	620	13	$15.45	820	15	$18.25	1020	21	$21.00
24	424	10	13.65	624	16	16.95	824	19	21.10	1024	26	24.35
28	428	12	14.70	628	19	18.45	828	23	22.60	1028	31	27.15
32	432	14	15.80	632	22	19.75	832	27	24.60	1032	36	29.80
36	436	16	17.15	636	25	21.25	836	31	26.80	1036	41	32.90
40	440	18	18.45	640	28	23.05	840	35	28.70	1040	46	35.50
44	444	20	19.70	644	31	24.60	844	39	30.85	1044	51	38.00
48	448	22	20.85	648	34	26.30	848	43	32.85	1048	56	40.40
56	456	26	23.20	656	40	29.30	856	51	36.70	1056	66	45.00
64	464	30	25.65	664	46	32.65	864	59	40.65	1064	76	50.50

Note: Elements only are furnished less floor supports.

Multifin elements for special one-pipe steam header application—not available.

Ordering Example: 1—420 Multifin Element only—no cabinet.

Ratings:

Ratings of Multifin Convectors have been determined in accordance with the method of testing and rating outlined in Commercial Standard Code CS140-47 and amendments and said ratings have been approved by the Convector Rating Committee.

Standard Cabinets:

Standard cabinets are furnished in prime painted sheet steel—reinforced, No. 18 gauge front and No. 20 gauge back, ends and top, rounded corners, streamline front discharge grille, and open bottom inlet arch, in heights, lengths and depths to accommodate convectors as currently catalogued.

MINIMUM CABINET HEIGHTS WITH DAMPERS FOR MULTIFIN AND ARCO CONVECTORS

Type cabinet	Multifin	Arco Cast Iron
F, FG	20" For all depths	24" For all depths
W	20" For all depths	24" For all depths
FS, FSG	20" For all depths	24" For all depths
S	20" For all depths	24" For #4, #6, #8 depths—32" For #10 depth
FR, FRG, FRGB	20" For all depths	20" For all depths
PR, PRG, PRGB	20" For all depths	20" For all depths

Cabinet heights shown for types W and S are nominal heights, actual heights are 5" less.

Cabinet heights for Arco Cast Iron convectors applicable to X-4 (underneath) connections only.

▼ See page 56

ARCO CONVECTORS

SPECIAL SERVICE LINE when sold in combination with standard cabinets

COMBINATION PRICE:

The actual output in square feet of catalog rating–Steam (215°F) obtained with the cabinet heights furnished determines the price of convectors and cabinets sold in combination.

The total price of each order equals the amount of catalog square feet ordered multiplied by the price per square foot, plus the unit extra charge multiplied by the total number of units ordered.

SEE CURRENT LITERATURE FOR STEAM AND HOT WATER RATINGS

cabinet type	description	▼ Trade Price per sq ft	▼ Trade Price unit extra charge
F	Floor Type–free standing	$2.17	$26.94
FG	Floor Type–free standing–inlet grille	2.17	30.23
W	Wall Hung–flat top	2.17	26.94
FS	Free Standing–sloping top	2.17	28.34
FSG	Free Standing–sloping top–inlet grille	2.17	31.50
S	Wall Hung–sloping top	2.17	28.34
FR	Fully recessed–1/16" beveled edges	2.17	26.94
FRG	Fully recessed–1/16" beveled edges–inlet grille	2.17	30.23
FRGB	Fully recessed–1/16" beveled edges–inlet grille with bottom overlap and liner bottom	2.17	32.89
PR	Partially recessed–1½", 2½", 3", 5" flanged edges	$2.25	$31.12
PRG	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille	2.25	34.28
PRGB	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille–with bottom overlap and liner bottom	2.25	42.38

Standard Cabinets are furnished in:

Prime painted sheet steel–reinforced, No. 18 gauge front and No. 20 gauge back, ends and top, rounded corners, streamline front discharge grille, and open bottom inlet arch, in heights, lengths and depths to accommodate convectors listed in current literature

For illustrations of cabinets, see page 47.

For cabinet extras, see page 50.

Ordering Example:

1–F-458-20 Arco Convector Unit X-4 ¾ x ½

For estimating shipping weights of Arco Convector Units use:
1½ pounds per square foot for cabinet portion.
3½ pounds per square foot for element portion.

ARCO CONVECTOR — *steam or water*

ELEMENTS ONLY (when sold less cabinets)

convector length inches	No. 4 3¾" depth unit no.	approx. shipping weight	▼ Trade Price	No. 6 5⅝" depth unit no.	approx. shipping weight	▼ Trade Price	No. 8 7⅝" depth unit no.	approx. shipping weight	▼ Trade Price	No. 10 9½" depth unit no.	approx. shipping weight	▼ Trade Price
18	418	39	$20.11	618	57	$ 29.67	818	71	$ 37.39	1018	84	$ 45.03
23	423	50	26.06	623	73	38.27	823	92	48.39	1023	110	58.26
28	428	61	31.88	628	90	46.87	828	113	59.40	1028	136	71.60
33	433	72	37.77	633	106	55.66	833	134	70.28	1033	162	84.76
38	438	83	43.59	638	123	64.26	838	155	81.09	1038	188	98.11
43	443	94	49.34	643	139	72.93	843	176	92.09	1043	213	111.32
48	448	105	55.10	648	146	81.47	848	197	103.10	1048	238	124.67
53	453	117	60.97	653	172	90.07	853	218	114.10	1053	264	138.01
58	458	128	66.79	658	189	98.74	858	239	125.05	1058	289	151.24
63	463	139	72.74	663	206	107.47	863	260	135.99	1063	314	164.39

Ordering Example:

1–418 Arco Cast Iron Element only–No Cabinet X-4 ½ x ½

Arco Convectors in lengths and depths indicated above are Standardized Sizes when sold with or without cabinets

For sizes not listed above–price on application

See page 48 for minimum cabinet heights with dampers.

CABINET EXTRAS FOR MULTIFIN AND ARCO CONVECTORS

CABINET EXTRAS—STOCK MODEL MULTIFIN ONLY

ITEM	DESCRIPTION	▼ Trade Price
DAMPER	Knob Operated Damper Package ..... each	$ 5.50
METAL TRIM STRIPS	**For recessing stock models only** 20" to 36" long ..... each 40" to 64" long ..... each	 9.45 12.10
GRILLE	Snap-on Inlet Grille for Stock Models Only ..... each	4.20
*AIR VENT	Air chamber with extended tube, manual vent ..... each Air chamber with Dole No. 20JR auto-vent ..... each	5.35 5.35

*Note: Items also available for special service Multifin.

SPECIAL SERVICE CABINET EXTRAS—MULTIFIN AND ARCO CONVECTORS

(Prices indicated are for standard catalogued sizes only)

ITEM	DESCRIPTION	▼ Trade Price
DAMPER	Knob or Institutional Type ..... each	$ 6.55
ACCESS DOOR	**In standard locations 1, 2, 3, 4, 7 or 8 as shown in current literature.** Hinged type with Slotted Head operator ..... each Hinged type with Allen Head operator ..... each Note: Access doors in other than standard locations	 6.55 7.80 Price on application
TAMPER PROOF SCREWS	Phillips or Allen Head screws (other than standard Slotted Head) per cabinet	1.05
CAM LOCKS	Allen Head Cam Locks (Allen Keys Not Furnished): Types F, FG, FS and FSG ..... per cabinet Types S and W (Multifin Only) ..... per cabinet Types FR, FRG, FRGB, PR, PRG, PRGB { Up to 48" ..... per cabinet / Over 48" ..... per cabinet **Note: Additional charge per order $5.20**	 5.40 5.40 23.80 29.80
INSULATION	½" Celotex or Fibreglas on outside of cabinet Back only ..... per cabinet Back, ends and top ..... per cabinet ½" Millboard on outside of cabinet Back only ..... per cabinet Back, ends and top ..... per cabinet	 11.10 13.70 26.00 36.95
SOUND DEADENING MATERIAL	Approx. ⅛" thick—inside front panel only ..... per cabinet	11.00
SEALING STRIP	**For standard length FR, FRG and FRGB cabinets only** (¼" x ⅜" Polyurethane) ..... per cabinet	 -4.60
STIFFENER	All fronts 48" and longer, or 32" and higher have stiffening channel spotwelded to inside front in horizontal position at no additional charge. Stiffening channel on fronts other than standard ..... per cabinet	1.55
METAL TRIM STRIPS	**For recessing Types F and FG Multifin convectors only** Cataloged heights and lengths up to 36" ..... each Cataloged heights and lengths 40" to 64" ..... each	 10.60 13.05
END POCKETS	***Specify right or left hand side*** 4" end pocket with No. 18 gauge vertical baffle ..... per end pocket 8" end pocket with No. 18 gauge vertical baffle ..... per end pocket	 5.90 9.45
KNOCKOUTS	Are optional—Furnished only on request	Price on application
HEAVIER GAUGE CABINETS	Trade Price per square foot of cabinet output No. 18 gauge ..... Front Only $ — ; Liners Only $.07 No. 16 gauge ..... Front Only .07 ; Liners Only .09 No. 14 gauge ..... Front Only .14 ; Liners Only not available	

▼ See page 56

BOILER RATINGS

The net I=B=R boiler ratings represent the maximum net loads that may be connected to the boilers. The net I=B=R steam ratings are based on a piping and pickup allowance of 1.333 except where an appropriate piping and pickup column is shown. Steam sq. ft. ratings are based on 240 Btuh per sq. ft. The net I=B=R water ratings in Mbh are based on a piping and pickup factor of 1.15. Water sq. ft. ratings are based on 150 Btuh (170° water) per sq. ft. For installations having unusual piping and pickup requirements, American-Standard should be consulted before selecting a boiler.

For forced hot water heating systems where the boiler and piping are within the area to be heated, the boiler may be selected on the basis of its gross output.

Sufficient radiation must be installed for the requirements of the building to be served.

In order to select the proper size boiler, calculate the heat loss of the building, then divide this figure by 1,000 to get the heat loss expressed in Mbh. Select a steam or water boiler which has a net I=B=R Mbh rating equal to or greater than this figure using the appropriate steam or water column.

See current literature for determining the size of radiators and convectors for hot water systems.

GAS FIRED BOILERS

American-Standard Gas boilers are design certified by the American Gas Association.

Ratings shown are for installation at sea level and at elevations up to 2,000 feet. For altitudes above 2,000 feet, ratings should be reduced at the rate of 4% for each 1,000 feet above sea level.

OIL FIRED BOILERS

The firing rates or I=B=R burner capacities — gallons per hour—are based on the use of oil having 140,000 Btu per gallon heat value.

STOKER FIRED BOILERS

The firing rates or I=B=R burner capacities—pounds per hour—are based on the use of coal having 13,000 Btu per pound heat value.

HAND FIRED BOILERS

The ratings are based on the use of stove or nut size bituminous coal, anthracite coal or coke with 13,000 Btu per pound heat value. See table below for selecting proper size boiler when using coal with less than 13,000 Btu per pound.

BUILT-IN TANKLESS WATER HEATERS for G-2 Water, G-40, G-10, A-3, FR-A-5, and A-5

All tankless type built-in water heaters are rated in gallons per minute on the basis of a minimum boiler water temperature of 200° F. The maintaining of 200° F boiler water temperature with rated flow through a tankless type built-in water heater is dependent on the output of the boiler.

Increase the boiler size 12 Mbh for each bathroom in excess of two.

In those areas where excessive lime exists in the water, use of built-in tankless type water heater is not recommended except when provision is made for regularly cleaning the heater.

EXTERNAL WATER HEATERS FOR AMERICAN-STANDARD STEAM BOILERS

External tank or tankless type heaters can be connected to all American-Standard Steam boilers when provision is made in the supply and return piping of the heating system.

When an external tank type heater is used and the domestic demand exceeds 75 gallons in a 24 hour period, increase the boiler size 120 Btuh for each gallon of storage tank capacity.

When an external tankless type heater is used, increase the boiler size 12 Mbh for each bathroom in excess of two.

(Note: G-10 Steam boilers can be provided with external water heater tappings for water to water heat exchangers. See G-10 optional equipment pages for price and availability. A-7 boilers are regularly provided with tappings for external water to water heat exchangers.)

WHERE COAL HAS LESS THAN 13,000 BTU CONTENT

When selecting hand fired boilers for burning coal of lower heating value than 13,000 Btu per pound the following correction factors should be used. Multiply the net load by the proper factor and select the boiler with the corresponding rating (installed radiation sq. ft.).

heating value of coal	correction factor	heating value of coal	correction factor
13,000	1.00	10,500	1.24
12,500	1.04	10,000	1.30
12,000	1.08	9,500	1.37
11,500	1 13	9,000	1 44
11,000	1 18		

INSTRUCTIONS FOR ORDERING GAS BOILERS:

Specify complete boiler number

Specify type of gas (whether natural or propane), Btu (heat value of gas), specific gravity.

Specify elevation at point of installation if in excess of 2,000 feet and indicate barometric pressure

In addition, for Pressure Fired PFA-5 gas fired and gas-oil fired units, specify gas pressure at gas train inlet

Specify optional equipment in detail.

REPAIR PARTS — TRADE PRICES

BOILERS

Prices listed in Boiler Repair Parts Catalog Form 9100-2 Dated 3/1 71 — Less 25%

Oil Burners — List Price Plus 21% Less 25%

For List Prices see "American Standard Arcoflame Oil Burner Repair Parts Catalog" 1968 Edition

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TRADE PRICE BOOK

Illustrations and descriptions of ordering Numbers listed in this price book will be found in the current American-Standard Hydronic Products Catalog and literature. Items illustrated in product literature and not included in this price book are discontinued. The illustrations in this price book although actual representations of certain products in the line, do not necessarily show sizes and details of all products in the line.

This price list has been prepared for the convenience of American-Standard distributors and their trade customers only. The trade prices shown are guides only and do not purport to represent actual prices prevailing in any particular market and are not intended to interfere with our distributors' right and responsibility to establish their own resale prices.

All prices herein set forth supersede all prior price lists and are subject to change without notice. The Seller may also, from time to time, discontinue without notice the sale of any of the products listed herein.

INVOICE MINIMUM

All distributors' orders, including repairs, which aggregate less than $15.00 net will be billed at $15.00.

TERMS AND CONDITIONS APPLYING TO ALL SALES OF GOODS BY AMERICAN-STANDARD THROUGH U.S. PLUMBING/HEATING TO ITS DISTRIBUTORS

All sales of goods by American-Standard through U.S. Plumbing/Heating to its distributors are made subject to terms and conditions printed below, in its bulletins and on its acknowledgment of order, invoice and quotation forms. These terms and conditions, are as follows:

PRICE

Goods sold by the Seller will be billed to the Buyer according to the prices and terms contained in its current bulletins and price books. In the case of orders for goods for which no price is currently in effect the price will be determined by the Seller and set forth in the invoice issued after shipment of the goods.

Taxes. Any tax or other Government charge now or hereafter levied upon the production, sale, use or shipment of goods ordered or sold, will be charged to and paid for by the Buyer.

DELIVERY

Transportation Risks. Delivery to the initial carrier shall constitute delivery to the Buyer. The Seller's responsibility ceases upon delivery in good order to such carrier and all goods are shipped at the Buyer's risk.

The Buyer is urged to examine all deliveries carefully before signing transportation receipts. If goods are visibly damaged, the Buyer should insist that written confirmation of the damage be noted on the freight bill or dray ticket by the agent of the carrier. If damage is discovered after unpacking, the carrier should be notified at once, so that inspection can be made and the claimed damage substantiated by the carrier.

Interference with Delivery. The Seller has no obligation to deliver goods against any order until it has accepted the order by issuance of its acknowledgment of order. In any event, the Seller will not be liable for any delay or failure in the delivery or shipment of goods against an accepted order or for any damages suffered by reason thereof, when such delay or failure is directly or indirectly due to accident (in manufacture or otherwise), fire, flood, riot, war, embargo, labor stoppages, inadequate transportation facilities, shortage of material or supplies, delay or default on the part of its vendors, regulation by Government authority, or any like or dissimilar cause beyond its control.

CONSUMER PROTECTION – WARRANTY

American-Standard products normally reach owners or consumer-users through an industry channel of distributors and plumbing and heating contractors. Experience has shown that claims of defects in our products generally relate to abuse or to other damage which occur after our sale and are not our responsibility. Since determining proper responsibility requires local inspection, our warranty (set forth below) extends only to our direct buyers, distributors are best equipped to obtain the facts underlying claims, to place responsibility where it belongs and to recommend/handle repair or replacement.

American-Standard warrants only to its distributors and other direct Buyers that it will furnish by freight a replacement for, or at its option repair, any product of its manufacture or part or portion thereof, proved to its satisfaction to be defective in material or workmanship under normal use and service within one year after installation.

There is no other warranty, express or implied, including no implied warranty of merchantability or implied warranty for fitness for a particular purpose and American-Standard will not be responsible for any damages whatsoever, nor for labor or transportation expenses relating to such replacement or such repair.

Goods of other manufacturers sold by American-Standard are not warranted unless accompanied by an express written warranty, but the Seller will endeavor to secure for its direct Buyers the benefits of warranties extended by such other manufacturers on such goods.

American-Standard is proud of its record for product quality and for fairness in handling warranty matters, and, if an ultimate user of our products should feel our warranty system described above does not work fairly in his case, he should write the Office of the President, Director of Consumer Affairs, U.S. Plumbing/Heating, American-Standard, 40 West 40th Street, New York, N.Y. 10018.

CONTRACT WITH BUYER

Acceptance of Orders. Orders will be accepted only by the Seller's usual acknowledgment of order containing terms and conditions applicable thereto. No terms and conditions appearing in a Buyer's order that are at variance with the Seller's terms and conditions shall be binding upon the Seller unless specifically agreed to by it in writing. Unless the Seller specifically so agrees in writing in acknowledging any order, any terms and conditions appearing in a Buyer's order contrary to those stated herein and in such acknowledgment of order are to be deemed waived by the Buyer. Receipt by the Buyer of the acknowledgment of order without prompt objection to the terms and conditions therein and herein set forth, constitute acceptance by the Buyer of such terms and conditions.

Cancellation of Orders. After the Seller's acknowledgment of order has been issued, an order may be modified or cancelled only upon written agreement by the Seller. Orders for goods other than those of standard manufacture will not be cancelled after a commitment has been made or production scheduled.

Credit for Returned Goods. Merchandise may not be returned for credit unless the Seller has agreed to accept it. Where returns are accepted, a deduction of 10% or $10, whichever is greater, will be made for rehandling. All transportation costs for returned goods must be paid by the Buyer. In any event, only saleable merchandise of standard manufacture may be returned for credit.

Credit Approval. Buyers' orders are accepted subject to credit investigation and approval, and delivery may be withheld or shipment stopped in transit on accepted orders without any liability on the Seller's part, if in its opinion, the Buyer's ability to pay for the merchandise on these terms and conditions is in doubt.

SHORTAGES OR VARIANCES

No claims for variances from or shortages in orders will be considered unless presented within 60 days after receipt of goods.

PRODUCT AND PACKAGING CHANGES

Factors beyond the control of the Seller and the need for continuing improvement of product require the making of changes from time to time in products and their packaging. The right is reserved to make reasonable changes of any kind without notice and to deliver revised designs or models of goods against any order, unless on the face of the acknowledgment of order this right is specifically waived.

The Seller shall have no responsibility whatever with respect to changes made by the manufacturer in products or their packaging sold but not manufactured by the Seller.

SHIPPING WEIGHTS

The shipping weights given herein are approximate for Buyer's convenience only and are not guaranteed.