AMERICAN STANDARD

of American Standard Inc.

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January 1, 1975

trade price book for AMERICAN-STANDARD Hydronic Heating Equipment*

*Hydronics . . . the science of heating and cooling with water.

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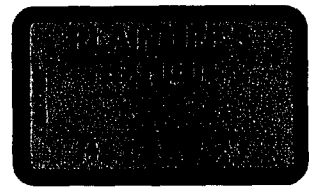


Cast Iron Boilers
Non-Ferrous Radiation

15644

AMERICAN STANDARD
HYDRONIC HEATING

GPM(X) PACKAGED GAS BOILERS

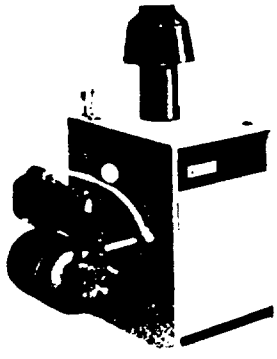
Completely assembled, pre-wired and jacketed.
Regularly supplied for 115 volt 60 cycle power supply with 24 volt system or self energizing controls at no extra charge. (Specify controls desired)
Built-in purge valve.
Built-in air separator (patented "Eliminaire")
Intermittent circulator operation.
Design 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 Prices with standard equipment GPM(X) with expansion tank	GPM less expansion tank	approx. shipping weight
GPM(X)-3	66	52.8	46.1	307	$418.00	$386.00	201
GPM(X)-4	99	79.2	68.7	458	457.00	427.00	244
GPM(X)-5	132	105.6	92.2	615	521.00	493.00	288
GPM(X)-6	165	132.0	114.8	765	595.00	567.00	341
GPM(X)-7	198	158.4	137.4	916	668.00	640.00	387
GPM(X)-8	231	184.8	160.9	1073	740.00	713.00	434

WATER — for propane gas — 100% shut-off

GPM(X)-3R	60	48	41.7	278	418.00	386.00	201
GPM(X)-4R	90	72	62.6	417	457.00	427.00	244
GPM(X)-5R	120	96	83.5	557	521.00	493.00	288
GPM(X)-6R	150	120	104.3	695	595.00	567.00	341
GPM(X)-7R	180	144	125.2	835	668.00	640.00	387
GPM(X)-8R	210	168	146.1	974	740.00	713.00	434



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.
3. Packaged boiler with standard equipment:
   1 GPMX-4R boiler with 24 volt controls
   Propane gas, 2500 Btu, 1.53 sg.

Standard Equipment

V800 series manifold gas valve
1¼" Circulator with Piping
ASME relief valve, 30 lb.
Draft Hood
Wiring Harness
Automatic Fill Valve
Expansion Tank
Auto Air Vent
Drain 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)

Optional Equipment

Constant circulation (24 V) L4081B limit and reverse acting circulator controls with AT20D transformer. Furnished at no additional charge.

Constant circulation (S.E.) L4081B limit and reverse acting circulator control and TS822A 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 $8.80
Propane to Natural gas . . . . . ▼ Trade Price $8.80

Zone valve packages are available for water boilers. For details and prices, see page 33.

15645

▼ See page 48
For complete specifications refer to Technical Data Bulletin Form No. 2568-2A Rev. 1-77

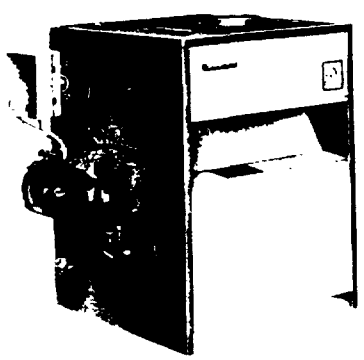
G-2 PACKAGED GAS BOILERS

Completely assembled—pre-wired—controls for forced circulation—deluxe jacket.
Available with or without tankless heater for domestic hot water.
Built-in air separator (patented "Eliminaire").
30 lbs. water working pressure.
Regularly furnished for 115 volt, 60 cycle with 24 volt control system.
Listed rating for installations at sea level 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
Packaged boilers with factory installed tankless heater								
G-24-DPT	90	72	218	2½	62.6	417	$628.00	416
G-25-DPT	120	96	222	3	83.5	556	702.00	481
G-26-DPT	150	120	222	3¼	104.3	695	771.00	551
G-27-DPT	180	144	222	3½	125.2	834	835.00	620
Packaged boilers less heater								
G-23-DP	60	48			41 7	278	494.00	333
G-24-DP	90	72			62 6	417	581.00	403
G-25-DP	120	96			83 5	556	650.00	472
G-26-DP	150	120			104.3	695	733.00	542
G-27-DP	180	144			125 2	834	783.00	603

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



Standard equipment

V800 Series manifold gas valve
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

Optional equipment

Self-energizing controls with VS820 gas valve, available when specified on order ..... no charge
L8148E (24V.) or L8148G (S.E.) combination limit/relay ... no charge
Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit":
G-23 thru G-27 ..... ▼ Trade Price $7.65
Floor shield for combustible flooring. Add suffix letter "C" to boiler number ..... add $4 45

Note: Manual opening feature is furnished with self-energizing controls as listed above.
Zone valve packages are available for water boilers. For details and prices, see page 33.

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.
3. Packaged boiler with standard equipment.
   1 G-25-DP boiler with ribbon burners
   Propane gas, 2500 Btu, 1 53 sg

15646

▼ See page 48

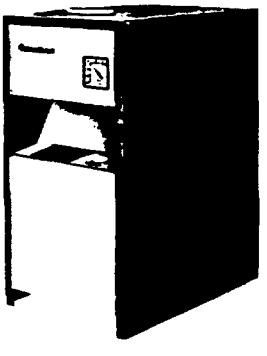
G-2 PACKAGED GAS BOILERS

Completely assembled—pre-wired—controls for steam spplication—
flush or deluxe jacket.
Regularly furnished for 115 volt, 60 cycle with 24 volt control system.
Listed ratings for installations at sea level 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
			Mbh	sq ft	flush jacket	deluxe jacket	
G-23-SP*	60	48	36	150	$414.00	$436.00	310
G-24-SP*	90	72	54	225	503.00	524.00	376
G-25-SP*	120	96	72	300	578.00	600.00	443
G-26-SP*	150	120	90	375	649.00	669.00	518
G-27-SP*	180	144	108	450	711.00	733.00	581

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



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Standard equipment

V800 Series manifold gas valve
No. 67-GAR (24V. and S.E.) low water cut-off
Gauge glass with trim
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

Optional equipment

Self-energizing controls (with VS820 gas valve) ..... no charge
Floor shield for combustible flooring ..... add $4.45
Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit":
G-23 thru G-27 ..... ▼ Trade Price $7.65

Note: Manual opening feature is furnished with self-energizing controls as listed above.

For Additional Optional Equipment, See page 15 & 16.
For substitution of No. 47-2 low water cut-off and feeder combination specify on order and add $56.00

Ordering Examples:

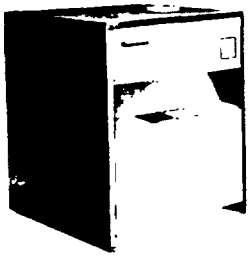
1. Packaged boiler with standard equipment:
   1 G-26-SPD boiler
   Nat. gas, 1000 Btu, .6 sg.
2. Packaged boiler with optional equipment:
   1 G-24-SPD boiler with self-energizing controls
   Nat. gas, 1000 Btu, .6 sg.
3. Packaged boiler with standard equipment:
   1 G-27-SPD boiler with ribbon burners
   Propane gas, 2500 Btu, 1.53 sg.

G-2 PACKAGED ALL-PURPOSE GAS BOILERS

Completely assembled—pre-wired—for forced circulation or gravity installation—deluxe jacket.
Built-in air separator (patented "Eliminaire").
30 lbs. water working pressure.
Regularly furnished for 115 volt, 60 cycle, with 24 volt control system.
Listed ratings for installations at sea level 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
G-23-DPG	60	48	41.7	278	$362.00	307
G-24-DPG	90	72	62.6	417	451.00	373
G-25-DPG	120	96	83.5	556	530.00	438
G-26-DPG	150	120	104.3	695	603.00	511
G-27-DPG	180	144	125.2	834	666.00	574



15648

Standard equipment

V800 Series manifold gas valve
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)

Optional equipment

Self-energizing controls (with VS820 Series gas valve) 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 $7.65

Note: Manual opening feature is furnished with self-energizing controls as listed above.

Thermostats for 24V. and S.E. control systems are available. For model and prices, see page 34.

Zone valve packages for water boilers. For details and prices, see page 33.

Floor shield for combustible flooring ..... Trade Price $4.45

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.
3. Packaged all-purpose boiler with standard equipment:
   1 G-24-DPG with ribbon burners
   Propane gas, 2500 Btu, 1.53 sg.

▼ See page 48

For complete specifications refer to Technical Catalog Bulletin Form No. 718-2 (Rev. 5-74)

G-2 NON-PACKAGED ALL-PURPOSE GAS BOILERS

Sections assembled—for Water with or without tankless heaters for domestic hot water. Steam without tankless coil.
Flush or deluxe jacket.
30 lbs. water, 15 lbs. steam working pressure.
Regularly furnished for 115 volt, 60 cycle, with 24 volts control system.
Listed ratings for installation at sea level to 2,000 feet.

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

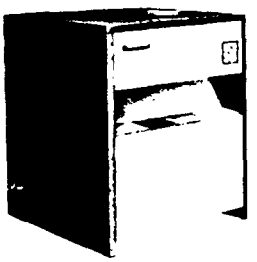
boiler number	A.G.A. input Mbh	A.G.A. output Mbh	net I=B=R rating Mbh	net rating sq ft water	▼ Trade Price with standard equipment less thermostat		approx. shipping weight
					flush jacket	deluxe jacket	
G-23-*W	60	48	41.7	278	$327.00	$349.00	295
G-24-*W(T)	90	72	62.6	417	414.00	436.00	353
G-25-*W(T)	120	96	83.5	556	494.00	516.00	426
G-26-*W(T)	150	120	104.3	695	567.00	589.00	500
G-27-*W(T)	180	144	125.2	834	628.00	650.00	566
G-28-*W(T)	210	168	146.1	974	701.00	723.00	630
G-29-*W(T)	240	192	167.0	1113	772.00	794.00	699
G-210-*W(T)	270	216	187.8	1252	835.00	857.00	790
G-211-*W(T)	300	240	208.7	1391	906.00	928.00	863

*Substitute letter "F" for flush or "D" for deluxe jacket. Suffix "T" denotes forced circulation boiler equipped with factory installed tankless heater (see page 15 for added charge.)

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

G-23-*S	60	48	36	150	$385.00	$407.00	310
G-24-*S	90	72	54	225	472.00	494.00	368
G-25-*S	120	96	72	300	552.00	574.00	442
G-26-*S	150	120	90	375	625.00	647.00	517
G-27-*S	180	144	108	450	686.00	708.00	583
G-28-*S	210	168	126	525	759.00	781.00	648
G-29-*S	240	192	144	600	831.00	853.00	718
G-210-*S	270	216	162	675	893.00	915.00	809
G-211-*S	300	240	180	750	965.00	987.00	883

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



Standard equipment

V800 Series manifold gas valve
AT20D Transformer (except S.E.)
Drain valve
Draft hood (for G-23D 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

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

Optional equipment

Side outlet ASME steam safety valve available—no charge if specified.
Natural to Propane gas conversion kits. Order boiler "with ribbon burners" and "Natural to Propane conversion kit":
G-23 thru G-27 ..... Trade Price **$ 7.65**
G-28 thru G-211 ..... Trade Price **$10.30**
Floor shield for combustible flooring ..... Trade Price **$ 4.45**
Additional optional equipment—see pages 15, 16 & 18.
Thermostats—see page 34.

Note: Zone valve packages for water boilers. For details and prices, see page 33.

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.
3. Non-packaged all-purpose steam boiler with standard equipment and flush jacket:
   1 G-25-FS boiler with ribbon burners
   Propane gas, 2500 Btu, 1.53 sg.

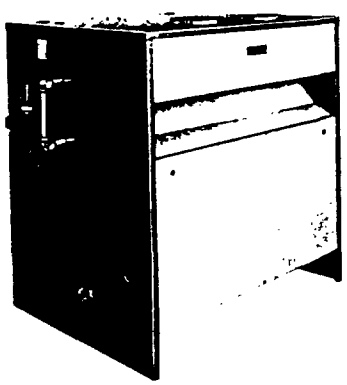
G-40 GAS BOILERS—WATER

Deluxe jacket with built-in draft hood.
Regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system (self energizing optional).
50 lbs. water working pressure.
Listed ratings for installation at sea level to 2,000 feet.

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.	height feet
G-403-W	150	120	104.3	695	$ 543.00	744	8	15
G-404-W	225	180	156.5	1043	691.00	921	8	15
G-405-W	300	240	208.7	1391	837.00	1117	8	15
G-406-W	375	300	260.9	1739	992.00	1297	10	15
G-407-W	450	360	313.0	2086	1147.00	1475	10	15
G-408-W	525	420	365.8	2434	1265.00	1647	10	15
G-409-W	600	480	417.4	2782	1412.00	1820	10	15
G-4010-W	675	540	469.6	3130	1559.00	1994	12	15
G-4011-W	750	600	521.8	3479	1707.00	2195	12	15
G-4012-W	825	660	574.0	3827	1859.00	2364	12	15
G-4013-W	900	720	626.2	4175	2006.00	2533	12	15
G-4014-W	975	780	678.4	4523	2153.00	2702	15	15

NOTE: Available as factory assembled sections in all sizes ..... Trade Price per section **$11.00**



Standard equipment

V800A Combination Gas Valve: G-403 and G-404 for Natural Gas
V800B Combination Gas Valve: G-403 thru G-407 for Propane Gas
G-50AAG Combination Gas Valve: G-405 and G-406 for Natural Gas
V88A or B-50 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 — AT20D Transformer (except S.E.)

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

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

ASME relief valve

Pressure and temperature gauge

L4006A (24V. and S.E.) immersion limit control

Zone valve packages are available for water boilers. For details and prices, see page 33.

Thermostats—see page 34.

Ordering Example:

Water boiler with standard equipment:
1 G-406-W boiler
Nat. gas, 1000 Btu, .6 sg.

Other optional equipment

(See pages 15, 16 and 18)

15650

G-40 GAS BOILERS—STEAM

Deluxe jacket with built-in draft hood.

Regularly furnished for 115 volt, 60 cycle power supply with 24 volt control system (self energizing optional).

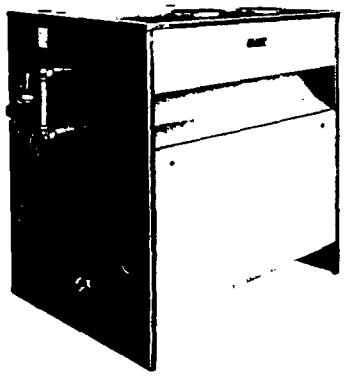
15 lbs. steam working pressure.

Listed ratings for installation at sea level to 2,000 feet.

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	$ 603.00	744	8	15
G-404-S	225	180	135.0	563	750.00	921	8	15
G-405-S	300	240	180.0	750	897.00	1117	8	15
G-406-S	375	300	225.1	938	1052.00	1297	10	15
G-407-S	450	360	270.1	1125	1207.00	1475	10	15
G-408-S	525	420	315.1	1313	1324.00	1647	10	15
G-409-S	600	480	360.1	1500	1472.00	1820	10	15
G-4010-S	675	540	405.1	1688	1618.00	1994	12	15
G-4011-S	750	600	450.0	1875	1767.00	2219	12	15
G-4012-S	825	660	495.2	2063	1918.00	2388	12	15
G-4013-S	900	720	540.0	2250	2066.00	2557	12	15
G-4014-S	975	780	585.1	2438	2212.00	2726	15	15

NOTE: Available as factory assembled sections in all sizes ..... Trade Price per section **$11.00**



Standard equipment

V800A Combination Gas Valve: G-403 and G-404 for Natural Gas

V800B Combination Gas Valve: G-403 thru G-407 for Propane Gas

G-50AAG Combination Gas Valve: G-405 and G-406 for Natural Gas

V88A or B-50 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 — AT20D Transformer (except S.E.)

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

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

ASME safety valve

Steam gauge

PA404A (24V. and S.E.) pressure limit control

Gauge glass with trim

No. 67-GAR (24V. and S.E.) low water cut-off

Side outlet ASME steam safety valve available. No charge if specified.

Thermostats—see page 34.

Ordering Example:

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

Other optional equipment

(See pages 15, 16 and 18)

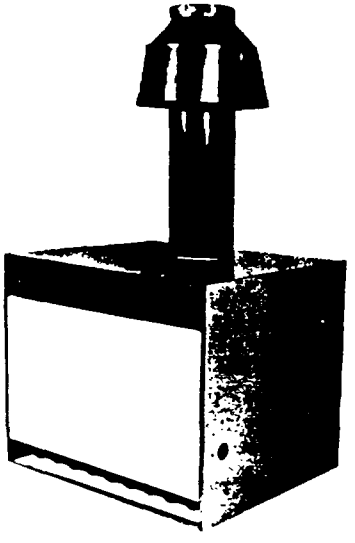
15651

GWP PACKAGED GAS BOILER
(Single Boiler Installation)

Completely assembled—pre-wired—forced circulation only—jacketed.
Relief valve, temperature pressure gauge—draft hood included but shipped separately.
50 lbs. working pressure.
Built-in air separator (patented "Eliminaire").
Regularly furnished for 115 volt, 60 cycle with 24 volt control system.
Listed ratings for installations at sea level to 2,000 feet.

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		approx. shipping weight	▼ Trade Price with standard equipment, less thermostat
				inside dia. in.	height feet		
GWP-5	264	211.2	183.5	7	15	613	$580.00
GWP-6	330	264.0	229.6	8	15	716	701.00
GWP-7	396	316.8	275.7	8	15	823	835.00



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 charge

Zone Valve Packages are available (for details and prices see page 33.)

* 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 ..... Add Trade Price **$13.85**

Electronic Control Panel Systems, see page 18 for prices. For application and details, contact American Standard.

Sections tested for 100 psi working pressure
Trade Price add per section **$11.00**

Thermostats—see page 34.

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For complete specifications refer to Technical Catalog Bulletin Form No. 70289-2 (Rev. 12-70)

GWM GAS MODULAR BOILER HOOK-UP

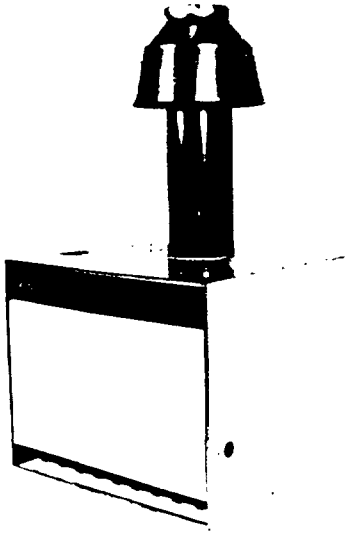
(Modular Boiler Installations)

The GWM Modular Boiler Hook-up is a combination or multiple of five, six or seven section GWM boiler modules. 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 standard.

Furnished for 115 volt, 60 cycle power supply with 24 volt control system. (Self-energizing controls are not available). Tested and equipped for 50 PSIG working pressure. Indicated ratings are for installation at sea level to 2,000 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	**$563.00**
GWM-6	330	264.0	229.6	735	**684.00**
GWM-7	396	316.8	275.7	846	**818.00**



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 R8227B
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 standard for natural gas.
Ribbon burners 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 **$55.00**
2. Factory fabricated Water Manifold for Parallel Boiler Hook-up. Includes interconnecting supply and return piping (boiler to manifold).
   Trade Price add per module **$111.00**
3. Electronic Control Panel Systems, see page 18. For application and details, contact American Standard.
4. Sections tested for 100 psi working pressure.
   ..... Trade Price add per section **$11.00**

Thermostats—see page 34.

*Add suffix "R" to module boiler number if ribbon burners are desired. Example — GWM-5R

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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	$1107.00
GWM-594	1	1	–	594	475.2	413.9	1364	1228.00
GWM-660	–	2	–	660	528 0	459 1	1470	1349.00
GWM-726	–	1	1	726	580 8	504 3	1581	1483.00
GWM-792	–	–	2	792	633 6	551.3	1692	1617.00
GWM-858	2	1	–	858	686.4	596 5	1993	1771.00
GWM-924	1	2	–	924	739 2	643 5	2099	1892.00
GWM-990	–	3	–	990	792 0	688 7	2205	2013.00
GWM-1056	–	2	1	1056	844.8	733.9	2316	2147.00
GWM-1122	–	1	2	1122	897 6	780 9	2427	2281.00
GWM-1188	–	–	3	1188	950 4	826 1	2538	2416.00
GWM-1254	1	3	–	1254	1003 2	873 0	2834	2556.00
GWM-1320	–	4	–	1320	1056.0	918 3	2940	2677.00
GWM-1386	–	3	1	1386	1108 8	963 5	3051	2812.00
GWM-1452	–	2	2	1452	1161 6	1010 4	3162	2946.00
GWM-1518	–	1	3	1518	1214.4	1055 7	3273	3080.00
GWM-1584	–	–	4	1584	1267 2	1102 6	3384	3214.00
GWM-1650	–	5	–	1650	1320 0	1147 8	3675	3342.00
GWM-1716	–	4	1	1716	1372.8	1193.0	3786	3496.00
GWM-1782	–	3	2	1782	1425 6	1240 0	3897	3630.00
GWM-1848	–	2	3	1848	1478 4	1285 2	4008	3764.00
GWM-1914	–	1	4	1914	1531 2	1332.2	4119	3898.00
GWM-1980	–	–	5	1980	1584 0	1376 4	4230	4033.00
GWM-2046	–	5	1	2046	1636 0	1422.6	4521	4160.00
GWM-2112	–	4	2	2112	1689 6	1467 8	4632	4294.00
GWM-2178	–	3	3	2178	1742 4	1516 5	4743	4429.00
GWM-2244	–	2	4	2244	1795 2	1561 7	4854	4563.00
GWM-2310	–	1	5	2310	1848.0	1607 0	4965	4697.00
GWM-2376	–	–	6	2376	1900 8	1652 2	5076	4831.00
GWM-2442	–	5	2	2442	1953 6	1697 4	5367	4959.00
GWM-2508	–	4	3	2508	2006 4	1746 1	5478	5093.00
GWM-2574	–	3	4	2574	2059.2	1791.3	5589	5227.00
GWM-2640	–	2	5	2640	2112.0	1836.5	5700	5361.00
GWM-2706	–	1	6	2706	2164 8	1881.7	5811	5496.00
GWM-2772	–	–	7	2772	2217 6	1927 0	5922	5630.00
GWM-2838	–	5	3	2838	2270 4	1975 7	6213	5757.00
GWM-2904	–	4	4	2904	2323 2	2020.9	6324	5892.00
GWM-2970	–	3	5	2970	2376 0	2066.1	6435	6026.00
GWM-3036	–	2	6	3036	2428 8	2111.3	6546	6160.00
GWM-3102	–	1	7	3102	2481 6	2156.5	6657	6294.00
GWM-3168 and upward	–	–	8	3168	2534 4	2205.2	6768	6428.00

Modular Operating Control Package Options

1. Four stage immersion type operating control. (one required for up to 4 modules) Trade price add per control **$95.00**
2. Immersion type operating controls with individual outdoor resets. Trade price add per module **$64.00**
3. Eight stage boiler sequencing control panel system with outdoor reset. (one required for up to 8 modules) Trade price add per control **$363.00**
4. Sections tested for 100 psi working pressure. ..... Trade Price add per section **$11.00**

15654

▼ See page 48

For ratings and specifications refer to Technical Catalog Bulletin Form No. 1289-2 Rev. 12-70

AMERICAN STANDARD
HYDRONIC HEATING

GW NON-PACKAGED GAS WATER
(Single or Modular Boiler Installations)

The GW non-packaged boiler designed for forced circulation only. Factory assembled sections. Jackets, burners and manifolds shipped separately. Includes relief valve, temperature-pressure gauge, and draft hood. The patented "Eliminaire" is standard.

Boiler tested and equipped for 50 PSIG working pressure. Furnished for 115 volt, 60 cycle power supply with 24 volt controls. Self-energizing controls available at no additional cost.

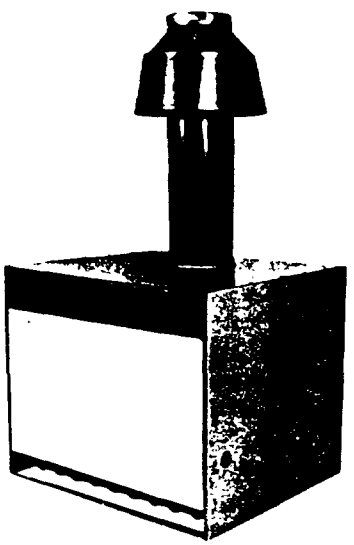
Ratings shown are for installations at sea level to 2000 ft. elevation.

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	$ 903.00
GW-9	528	422.4	367.0	10	15	1052	977.00
GW-10	594	475.2	413.9	10	15	1177	1051.00

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	—	—	924	739	644	1876	$1806.00
GW-990	1	1	—	990	792	689	1990	1880.00
GW-1056	—	2	—	1056	845	734	2104	1954.00
GW-1122	—	1	1	1122	898	781	2229	2027.00
GW-1188	—	—	2	1188	950	826	2354	2101.00
GW-1386	3	—	—	1386	1108	964	2814	2709.00
GW-1452	2	1	—	1452	1162	1010	2928	2783.00
GW-1518	1	2	—	1518	1214	1056	3042	2857.00
GW-1584	—	3	—	1584	1267	1103	3156	2930.00
GW-1650	—	2	1	1650	1320	1148	3281	3004.00
GW-1716	—	1	2	1716	1373	1193	3406	3078.00
GW-1782	—	—	3	1782	1426	1240	3531	3152.00
GW-1848	4	—	—	1848	1478	1285	3752	3612.00
GW-1914	3	1	—	1914	1531	1332	3866	3686.00
GW-1980	2	2	—	1980	1584	1376	3980	3760.00
GW-2046	1	3	—	2046	1637	1423	4094	3834.00



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 standard for natural gas.
Ribbon Burners standard for propane gas and optional for natural gas.

Optional equipment

Sections tested for 100 psi working pressure. ..... Trade Price add per section $11.00

Self-energizing controls . . . . . no charge

Thermostats—see page 34.

Electronic Control Panel System, see page 18. 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 $95.00
2. Immersion type operating controls with individual outdoor resets (one required for each module). . Trade Price add per module $64.00
3. Eight stage boiler sequencing control package with outdoor reset (one required for up to 8 modules) Trade Price add per control $363.00

*Add suffix "R" to model number if ribbon burners are desired. Example: GW-8-R

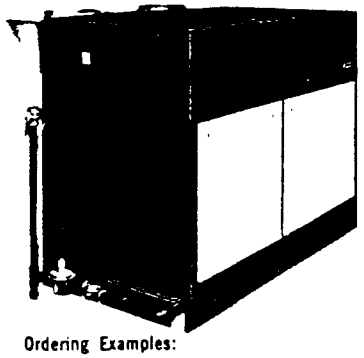
G-10 GAS BOILERS —

AGA approved inputs 800 MBH to 6400 MBH. Single combustion chamber—jacketed. Available with built-in heaters for storage tank or tankless application. 50 lbs. water working pressure. Integral draft hood rear outlet—optional top outlet—natural gas only (except G-1010) available at no extra charge. Regularly furnished for 115 volt, 60 cycle power system with 24 volt controls. Listed ratings for installation at sea level to 2,000 feet.

WATER — Natural Gas — 100% Shut-Off. For Built-In Water Heaters, see page 17.

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	$ 1697.00	2706	14	20
G-106-W	1000	800	695.7	1.15	4638	2067.00	3153	14	20
G-107-W	1200	960	834.8	1.15	5565	2433.00	3627	14	20
G-108-W	1400	1120	973.9	1.15	6493	2824.00	4107	16	20
G-109-W	1600	1280	1113.0	1.15	7420	3156.00	4584	16	20
G-1010-W	1800	1440	1252.2	1.15	8348	3493.00	5077	18	20
G-1011-W	2000	1600	1391.3	1.15	9275	3846.00	5568	18	20
G-1012-W	2200	1760	1530.4	1.15	10203	4293.00	6146	20	20
G-1013-W	2400	1920	1669.6	1.15	11131	4824.00	6659	20	20
G-1014-W	2600	2080	1808.7	1.15	12058	5212.00	7179	22	20
G-1015-W	2800	2240	1947.8	1.15	12985	5539.00	7752	22	20
G-1016-W	3000	2400	2087.0	1.15	13913	5880.00	8248	22	30
G-1017-W	3200	2560	2226.1	1.15	14841	6236.00	8744	22	30
G-1018-W	3400	2720	2365.2	1.15	15768	6611.00	9253	24	30
G-1019-W	3600	2880	2504.3	1.15	16695	7002.00	9765	24	30
G-1020-W	3800	3040	2643.5	1.15	17623	7327.00	10301	24	30
G-1021-W	4000	3200	2782.6	1.15	18551	7717.00	10778	26	30
G-1022-W	4200	3360	2921.7	1.15	19478	8058.00	11341	26	30
G-1023-W	4400	3520	3060.9	1.15	20406	8446.00	11851	26	30
G-1024-W	4600	3680	3200.0	1.15	21333	8803.00	12360	26	30
G-1025-W	4800	3840	3339.1	1.15	22261	9131.00	12891	28	30
G-1026-W	5000	4000	3478.3	1.15	23189	9521.00	13384	28	30
G-1027-W	5200	4160	3617.4	1.15	24116	9893.00	13876	28	30
G-1028-W	5400	4320	3756.5	1.15	25043	10160.00	14374	28	30
G-1029-W	5600	4480	3895.7	1.15	25971	10421.00	14878	30	30
G-1030-W	5800	4640	4034.8	1.15	26899	10826.00	15368	30	30
G-1031-W	6000	4800	4173.9	1.15	27826	11154.00	15891	30	30
G-1032-W	6200	4960	4313.0	1.15	28753	11480.00	16406	30	30
G-1033-W	6400	5120	4452.2	1.15	29080	11822.00	16936	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.



Ordering Examples:
1 Water boiler
1 G-1013-W boiler
Nat. gas, 1000 Btu, 6 sg

Standard equipment

V88A or B50D 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 pilotstat and H17BA1 pilot valves
Pressure and temperature gauge
L4006A immersion limit control
Thermostats—see page 34.

Optional equipment

80 lbs. water test—Trade Price per section **$11.00**
Factory assembled sections thru G-1011 Trade Price per section **$30.00**

Other optional equipment:

See pages 15, 17 and 18

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 48

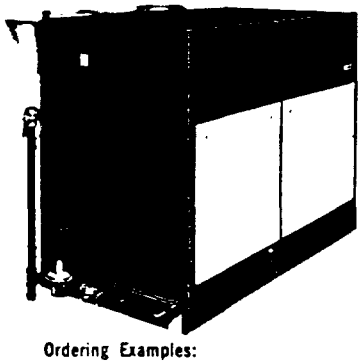
G-10 GAS BOILERS

AGA approved inputs 800 MBH to 6400 MBH. Single combustion chamber—jacketed. Available with built-in heaters for storage tank or tankless application. 15 lbs. steam working pressure. Integral draft hood rear outlet—optional top outlet natural gas only (except G-1010) available at no extra charge. Regularly furnished for 115 volt, 60 cycle power system with 24 volt controls. Listed ratings for installations at sea level to 2,000 feet. Factory sections assembled thru G-1011 optional and Trade Price $23.00 per section.

STEAM — For Natural Gas — 100% Shut-Off. For Built-In Water Heaters (G-105S thru G-1014S only) See page 17.

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.	I=B=R piping and pick-up factor ▲	▼Trade Price with standard equipment less thermostat	approx. shipping weight	chimney size inside diam. in.	chimney size ht. ft.
G-105-S	800	640	480.1	2000	1.333	$ 1757.00	2706	14	20
G-106-S	1000	800	600.1	2501	1.333	2126.00	3153	14	20
G-107-S	1200	960	720.2	3001	1.333	2497.00	3627	14	20
G-108-S	1400	1120	840.2	3501	1.333	2888.00	4107	16	20
G-109-S	1600	1280	962.4	4010	1.330	3226.00	4584	16	20
G-1010-S	1800	1440	1095.1	4563	1.315	3552.00	5077	18	20
G-1011-S	2000	1600	1227.9	5116	1.303	3960.00	5568	18	20
G-1012-S	2200	1760	1361.2	5672	1.293	4422.00	6146	20	20
G-1013-S	2400	1920	1489.5	6206	1.289	4902.00	6659	20	20
G-1014-S	2600	2080	1614.9	6729	1.288	5290.00	7179	22	20
G-1015-S	2800	2240	1739.1	7246	1.288	5617.00	7752	22	20
G-1016-S	3000	2400	1863.4	7764	1.288	5958.00	8248	22	30
G-1017-S	3200	2560	1987.6	8282	1.288	6314.00	8744	22	30
G-1018-S	3400	2720	2111.8	8799	1.288	6749.00	9253	24	30
G-1019-S	3600	2880	2236.0	9317	1.288	7139.00	9765	24	30
G-1020-S	3800	3040	2360.2	9834	1.288	7466.00	10301	24	30
G-1021-S	4000	3200	2484.5	10352	1.288	7853.00	10778	26	30
G-1022-S	4200	3360	2608.7	10870	1.288	8195.00	11341	26	30
G-1023-S	4400	3520	2732.9	11387	1.288	8584.00	11851	26	30
G-1024-S	4600	3680	2857.1	11905	1.288	8942.00	12360	26	30
G-1025-S	4800	3840	2981.4	12422	1.288	9269.00	12891	28	30
G-1026-S	5000	4000	3105.6	12940	1.288	9657.00	13384	28	30
G-1027-S	5200	4160	3229.8	13458	1.288	10031.00	13876	28	30
G-1028-S	5400	4320	3354.0	13975	1.288	10295.00	14374	28	30
G-1029-S	5600	4480	3478.3	14493	1.288	10560.00	14878	30	30
G-1030-S	5800	4640	3602.5	15010	1.288	10964.00	15368	30	30
G-1031-S	6000	4800	3726.7	15528	1.288	11292.00	15891	30	30
G-1032-S	6200	4960	3850.9	16046	1.288	11617.00	16406	30	30
G-1033-S	6400	5120	3975.2	16563	1.288	11959.00	16936	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.



Ordering Examples:
Steam boiler with standard equipment
1 G1015 S boiler
Nat. gas, 1000 Btu, 65 sg

Standard equipment

V88A or B50D gas valve(s)
Gas pressure regulator (except propane gas)
Manual main gas shut-off valve
Manual pilot gas shut-off valve
AT20D Transformer
ASME safety valve
Steam gauge
Ribbon type main burners
Drain valve
Draft hood
L62GB combination pilotstat and H17BA1 pilot valves
PA404A pressure limit control
Gauge glass with trimmings
No. 67AR Low Water cut-off
Thermostats—see page 34.
Side outlet ASME steam safety valve available. No charge if specified.

Optional equipment

Factory assembled sections thru G-1011 Trade Price per section **$30.00**

Other optional equipment:

(See pages 15, 17 and 18).

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 as shown above.

MISCELLANEOUS OPTIONS — NON-PACKAGED GAS BOILERS

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

"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 **$16.90.** This control operates gas valves on boiler electrically as required.

No. 47-2 boiler water feeder and cut-off combination is available instead of the 67-AR with G-2, G-40 and G-105 thru G-108 steam boilers at additional Trade Price . **$55.65**

Low water cut-offs for water boilers: No. 63 cut-off for water working pressures of 50 lbs., or less. Trade Price **$57.50**

No. 150 cut-off for water working pressures in excess of 50 lbs. available when specified. Trade Price **$85.90**

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-1010 for natural gas. Equipment includes: S.E. gas valve, 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 34.

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 **$75.00**

Zone circulator control for water boiler with tankless heater and combination immersion control-relay: use one T822D **$7.70** thermostat and one R845A **$22.35** relay for second and/or third zone.

Water flow regulators sized for tankless heater involved will be furnished with heater when specified on order to meet local Utility requirement. Trade Price per heater..... **$4.45**

G-40 AND G-10 BOILERS:

No. 51-2 boiler water feeder and cut-off available instead of No. 67-AR regularly furnished with G-109 thru G-1033 steam boilers. Trade Price **$85.00**

Try-cocks and tappings: for steam boiler to meet local code specify on order. Trade Price **$5.70**

G-2 BOILERS:

"DW" (Direct Water) equipment: In addition to water boiler standard equipment, page 6, 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. Trade Price **$22.20**

Floor shield for combustible flooring: Add suffix letter "C" to boiler number. Trade Price **$4.45**

G-40 BOILERS:

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

G-10 BOILERS:

Pilot filters for G-10 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. Trade Price per tapping **$5.70**

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 V4062/5055B gas valve for Hi-Lo-off operation. 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 SPST operating control. Specify on order and add to the Trade Price of the boiler with regular equipment.

G-105 thru 1018 ..... **$218.00**
G-1019 thru 1033 ..... **$275.00**

▼ See page 48

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	$55.00	$32.00
222	61.00	39.00
226	75.00	53.00
232	87.00	65.00

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

Water flow regulator. Specify on order. Trade Price.... **$4.45**

G-40 TANKLESS HEATERS — STEAM OR FORCED WATER BOILERS

Ratings (Gallons per minute*)

▼ Trade Prices

HEATER NO.	HEATER WITH CONTROLS		HEATER ONLY
	Water	Steam(1)	Water or Steam
218	$55.00	$48.00	$32.00
222	61.00	55.00	39.00
226	75.00	69.00	53.00
232	87.00	81.00	65.00
445	105.00	99.00	83.00
460	113.00	108.00	91.00

Tankless heaters with controls for water boilers: L8124E combination immersion control-relay packed in trim box in place of standard limit control. **$4.45**

Tankless heaters with controls for steam boilers: L4006A immersion operating control packed in trim box in addition to PA404A pressure limit control. **$16.90**

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

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

G-40

F.M. or F.I.A. equipment

F.I.A. requires special gas train PLUS F.I.A. electronic panel

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

BOILER NUMBER	ADD TO BOILER TRADE PRICE ▼ F.M.(1)	F.I.A.(2)
G-403 thru G-4014	$112.00	$589.00

(1) F.M. gas control equipment includes two manual shut-off valves, a test vent valve and one AH2/V710 Hydromotor Valve

(2) F.I.A. gas control equipment includes two manual shut-off valves, HI and LO pressure switches, two AH2/V710 Hydromotor Valves and a vent valve

Note: A low water cut-off for water boilers (50 lb. or 80 lb. water working pressure) will be furnished as required.

No. 63 ..... Trade Price **$57.50**
No. 150 ..... Trade Price **$85.90**

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.

G-10 BOILERS — TANKLESS OR TANK TYPE HEATER

No. 1023 heater is available in any quantity. Specify number required. Trade Price each **$45.40**

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	$9.85	$14.95	$18.75

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, 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 **$6.05**

When specified, the G-10 water boiler with heater can be provided with the combination L8124E in place of the L4006A limit control. Trade Price **$22.00**

G-10
F.M. or F.I.A. equipment
F.I.A. requires special gas train PLUS F.I.A. electronic panel

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

BOILER NUMBER	ADD TO BOILER TRADE PRICE ▼ F.M.(1)	F.I.A.(2)
G-105 thru G-106	$ 98.00	$591.00
G-107	116.00	637.00
G-108 thru G-1011	101.00	770.00
G-1012 thru G-1017	164.00	878.00
G-1018	221.00	957.00
G-1019 thru G-1030	229.00	1019.00
G-1031 thru G-1033	294.00	1185.00

(1) F.M. gas control equipment includes two manual shut-off valves, a test vent valve and one AH2/V710 Hydromotor Valve

(2) F.I.A. gas control equipment includes two manual shut-off valves, HI and LO pressure switches, two AH2/V710 Hydromotor Valves and a vent valve

When No. 1023 heaters are used in steam boilers, the L4006A operating control will be required for installation in a heater tapping. Trade Price **$16.90**

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. Trade Price **$16.90**

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	4 3/4	19
G-105 - G-1033	2	7 1/2	14
G-106 - G-1033	3	10	12
G-108 - G-1033	4	12 3/4	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 48

GAS BOILER ELECTRONIC CONTROL PANEL SYSTEMS

(FOR 115 VOLT, 60 CYCLE , 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)
GW, G-40	EPG-M1	$250.00
G-105 thru G-1012	EPG-M1	250.00
G-1013 thru G-1023	EPG-M2	480.00
G-1024 thru G-1033	EPG-M3	718.00

PANEL SYSTEMS EPG-E		
boiler no.	system no.	added charge (1)
GW, G-40	EPG-E1	$276.00
G-105 thru G-1012	EPG-E1	276.00
G-1013 thru G-1023	EPG-E2	508.00
G-1024 thru G-1033	EPG-E3	762.00

PANEL SYSTEMS EPG-ES		
boiler no.	system no.	added charge (1)
GW, G-40	EPG-ES1	$329.00
G-105 thru G-1012	EPG-ES1	329.00
G-1013 thru G-1023	EPG-ES2	561.00
G-1024 thru G-1033	EPG-ES3	817.00

PANEL SYSTEMS EPG-M(FIA)		
boiler no.	system no.	added charge
GW, G-40	EPG-M1(FIA)	$455.00
G-105 thru G-1012	EPG-M1(FIA)	455.00
G-1013 thru G-1023	EPG-M2(FIA)	696.00
G-1024 thru G-1033	EPG-M3(FIA)	946.00

Flame Rod Wire: Trade Price per foot $ .50

Ignition Cable: Trade Price per foot $1.05

(1) Note: If purge timer is desired, specify on order and add $75.00 Trade Price

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

▼ See page 48

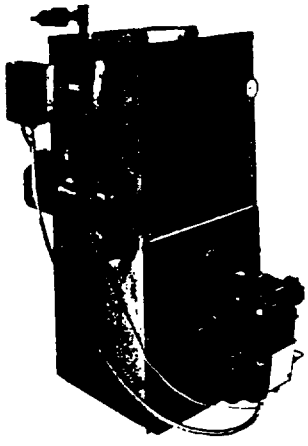
DP(T)-95/105 PACKAGED BOILER-BURNER UNITS

Boiler-burner unit; dry base design—with DH-F flame retention burner (1725 RPM). Nozzles for two firing rates provided. Furnished with controls for forced circulation. Tested and equipped for 30 lbs. water working pressure. 115/60/1 electrical characteristics.

WATER

packaged unit number	gross I=B=R output mbh	I=B=R burner capacity gph	tankless heater number	* tankless heater capacity gpm	net I=B=R rating mbh	net rating sq. ft. water	▼ Trade Price with standard equipment	approx. shipping weight	nozzle sizes
Packaged units with factory installed tankless heater with R-8182D Aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.									
DPT-95	95	.90	218	3	82.6	550	**$686.00**	496	.90-80°S and 1.00-80°S
DPT-105	105	1.00	218	3	91.3	608	**686.00**	496	
Packaged units less tankless heater with L4080B Aquastat limit control, and separate R8184G light sensing primary control.									
DP-95	95	.90	—	—	82.6	550	**$636.00**	481	.90-80°S and 1.00-80°S
DP-105	105	1.00	—	—	91.3	608	**636.00**	481	

*Gallons of water per minute from 40°F to 140°F with 200°F boiler water temperature.
NOTE. Water volume 9.6 gallons.



Standard equipment:

Model DH-F Arcoflame oil burner with sling mounting cad cell, bracket and leads.
T822D thermostat.
Light weight fire brick combustion chamber.
Nozzles—Two (high firing and low firing rate) each boiler.
Draft regulator.
ASME relief valve.
Pressure and temperature gauge.
1¼" circulator and piping.
Wiring harness.
Drain valve.

Optional equipment:

Two-stage fuel unit for DH-F oil burner. Specify on order. Trade Price... **$8.30**

Ordering Examples:

1. Packaged unit with heater with standard equipment:
   1 DPT-95 boiler-burner unit
2. Packaged unit less heater with standard equipment:
   1 DP-95 boiler-burner unit

15662

▼ See page 48

For complete specifications refer to Technical Catalog Bulletin Form No. 72131-2 (6-72)

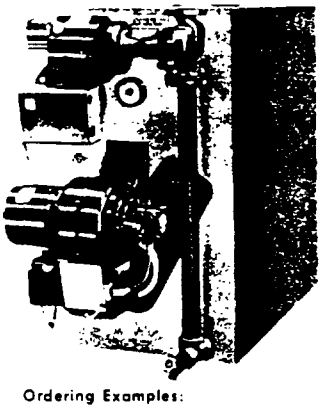
VP(T) PACKAGED BOILER-BURNER UNITS

Boiler-burner unit—wet base design—with DH-F flame retention burner (1725 RPM). Nozzles for multiple firing rates provided. Furnished with controls for forced circulation. Tested and equipped for 30 lbs. water working pressure. 115/60/1 electrical characteristics.

WATER

No. Sections	packaged unit number	gross I=B=R output mbh	I=B=R burner capacity gph	tankless heater number	* tankless heater capacity gpm	net I=B=R rating mbh	net rating sq. ft. water	▼ Trade Price with standard equipment	approx. shipping weight	water volume (gal.)	nozzle sizes
Packaged units with factory installed tankless heater								With R8182D Aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.			
3	**VPT-115**	115	1.05	130	3½	100.0	667	$ 737.00	575	15.6	1.00-80° Hago ES and
	VPT-130	130	1.15	130	3½	113.0	753	737.00	575	15.6	1.10-80° Hago ES
	VPT-140	140	1.25	130	3½	122.0	814	737.00	575	15.6	1.25-80° Hago ES
4	**VPT-170**	170	1.50	131	4¾	147.8	985	890.00	685	20.0	1.50-80° Hago ES and
	VPT-190	190	1.70	131	4¾	165.2	1102	890.00	685	20.0	1.65-80° Delevan B
5	**VPT-230**	230	2.05	132	6	200.0	1333	1004.00	795	24.4	2.00-70° Monarch R and
	VPT-250	250	2.25	132	6	217.4	1449	1004.00	795	24.4	2.25-70° Monarch R
Packaged units less tankless heater								With R8182F Aquastat-relay combination, limit and circulator control, light sensing primary control, one heater opening cover plate.			
3	**VP-115**	115	1.05	—	—	100.0	667	$ 686.00	560	15.6	1.00-80° Hago ES and
	VP-130	130	1.15	—	—	113.0	753	686.00	560	15.6	1.10-80° Hago ES
	VP-140	140	1.25	—	—	122.0	814	686.00	575	15.6	1.25-80° Hago ES
4	**VP-170**	170	1.50	—	—	147.8	985	838.00	670	20.0	1.50-80° Hago ES and
	VP-190	190	1.70	—	—	165.2	1102	838.00	670	20.0	1.65-80° Delevan B
5	**VP-230**	230	2.05	—	—	200.0	1333	926.00	780	24.4	2.00-70° Monarch R and
	VP-250	250	2.25	—	—	217.4	1449	926.00	780	24.4	2.25-70° Monarch R

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



Standard equipment:

Model DH-F Arcoflame oil burner with sling mounting cad cell, bracket and leads.
T822D thermostat.
Pre-cast refractory combustion target wall.
Draft regulator.
ASME relief valve.
Pressure and temperature gauge.
1¼" circulator with piping.
Wiring harness.
Drain valve.

Optional equipment:

Zone valve packages are available for water boilers. For details and prices, see page 33.
Two stage fuel unit for DH-F oil burner—specify on order. Trade Price... **$8.30**
Jacket extension. Trade Price **$35.00**
R-8182-D Aquastat relay combination for use with tankless coils for conversion of boiler without tankless heater. Trade Price add **$7.70**
For tankless heater information, see page 23.

Ordering Examples:

1. Packaged unit with heater with standard equipment:
   1 VPT-115 boiler-burner unit
2. Packaged unit less heater with standard equipment:
   1 VP-115 boiler-burner unit

15663

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

Boiler-burner unit—wet base design—with DH-F flame retention burner (1725 RPM). Sections assembled—nozzles for two firing rates provided. Flexible for steam, water, forced or gravity circulation—with or without tankless heater. 30 lbs. water working pressure, 15 lbs. steam. 115 volt, 60 cycle, single stage electrical characteristics.

WATER

WBT **Forced circulation units with factory installed tankless heater** include R8182D aquastat-relay combination, high limit, low limit and circulator control, light sensing primary control.

WB **Forced circulation units less heater** include R8182F aquastat combination, limit and circulator control, light sensing primary control.

Section Designation	boiler burner unit number	gross I=B=R output mbh	I=B=R burner capacity gph	tankless heater number	tankless heater rating gpm	net I=B=R rating mbh	net rating steam sq. ft.	▼ Trade Price standard equipment less tankless	▼ Trade Price standard equipment with tankless	approx. shipping weight	nozzle used
V-33	V3-116WB(T)	116	1.05	222	4¾	100.9	—	$ 613.00	$ 656.00	613	1.00-80° Hago ES
	V3-128WB(T)	128	1.15	222	4¾	111.3	—	613.00	656.00	613	1.10-80° Hago ES
V-34	V3-172WB(T)	172	1.55	226	5¾	149.6	—	789.00	846.00	790	1.50-80° Hago ES
	V3-186WB(T)	186	1.70	226	5¾	161.7	—	789.00	846.00	790	1.65-70° Hago ES
V-35	V3-228WB(T)	228	2.10	232	7	198.3	—	957.00	1026.00	967	2.00-70° Monarch R
	V3-244WB(T)	244	2.25	232	7	212.2	—	957.00	1026.00	967	2.25-70° Monarch R
V-36	V3-284WB(T)	284	2.60	445	8¼	247.0	—	1112.00	1199.00	1144	2.50-70° Delevan B
	V3-302WB(T)	302	2.80	445	8¼	262.6	—	1112.00	1199.00	1144	2.75-60° Delevan B

WBG **Gravity units less heater** includes L4080B aquastat limit control, and separate R8184G light sensing primary control.

V-33	V3-116WBG	116	1.05	—	—	100.9	—	607.00	Not Avail.	613	1.00-80° Hago ES
	V3-128WBG	128	1.15	—	—	111.3	—	607.00	Not Avail.	613	1.10-80° Hago ES
V-34	V3-172WBG	172	1.55	—	—	149.6	—	783.00	Not Avail.	790	1.50-80° Hago ES
	V3-186WBG	186	1.70	—	—	161.7	—	783.00	Not Avail.	790	1.65-70° Hago ES
V-35	V3-228WBG	228	2.10	—	—	198.3	—	952.00	Not Avail.	967	2.00-70° Monarch R
	V3-244WBG	244	2.25	—	—	212.2	—	952.00	Not Avail.	967	2.25-70° Monarch R
V-36	V3-284WBG	284	2.60	—	—	247.0	—	1107.00	Not Avail.	1144	2.50-70° Delevan B
	V3-302WBG	302	2.80	—	—	262.6	—	1107.00	Not Avail.	1144	2.75-60° Delevan B

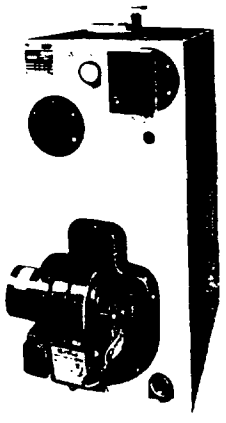
STEAM

SBT **Steam units with factory installed tankless heater** includes PA404A Pressuretrol, L4006A aquastat operating control, and separate R8184G light sensing primary control.

SB **Steam units less heater** include PA404A Pressuretrol, and separate R8184G light sensing primary control.

V-33	V3-116SB(T)	116	1.05	222	4¼	87.1	363	607.00	548.00	613	1.00-80° Hago ES
	V3-128SB(T)	128	1.15	222	4¼	96.0	400	607.00	548.00	613	1.10-80° Hago ES
V-34	V3-172SB(T)	172	1.55	226	5¼	129.1	538	783.00	708.00	790	1.50-80° Hago ES
	V3-186SB(T)	186	1.70	226	5¼	139.4	581	783.00	708.00	790	1.65-70° Hago ES
V-35	V3-228SB(T)	228	2.10	232	6¼	171.1	713	952.00	857.00	967	2.00-70° Monarch R
	V3-244SB(T)	244	2.25	232	6¼	183.1	763	952.00	857.00	967	2.25-70° Monarch R
V-36	V3-284SB(T)	284	2.60	445	7¼	213.1	888	1107.00	1000.00	1144	2.50-70° Delevan B
	V3-302SB(T)	302	2.80	445	7¼	226.6	944	1107.00	1000.00	1144	2.75-60° Delevan B

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



Standard equipment:

Model DH-F Arcoflame oil burner sling mounting, cad cell, bracket and leads.
T822D thermostat.
Pre-cast refractory combustion target wall.

Draft regulator.
Drain valve.
Units WITH water heater: 1 cover plate with ¾" control tapping.
Units LESS 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.

Ordering Examples:

1. All-Purpose boiler-burner unit with standard equipment:
   For forced circulation, with heater:
   1 V3-116/128WBT boiler-burner unit
   For gravity circulation:
   1 V3-172/186WBG boiler-burner unit
2. All-Purpose boiler-burner unit with optional equipment:
   For forced circulation, less heater:
   1 V3-228/244WB boiler-burner unit with stage fuel unit.

Optional equipment:

Zone valve packages are available for water boilers. For details and prices, see page 33.

Others—see page 23.

V-3M ALL-PURPOSE OIL FIRED BOILERS

The non-packaged all-purpose boiler only, with sections factory assembled, tested and equipped for 30 psi working pressure for water, 15 psi steam.

WATER

WT—Forced circulation boiler only with factory installed tankless heater.
W—Forced circulation boiler only less heater.

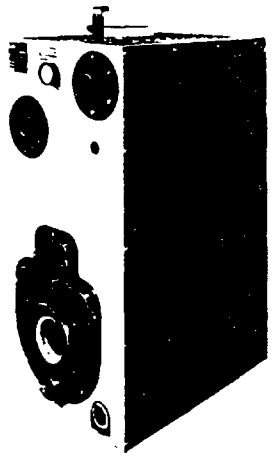
Section Designation	boiler number	gross I=B=R output mbh	I=B=R burner capacity gbh	tankless heater number	tankless heater rating gpm	net I=B=R rating mbh	▼ Trade Price standard equip. less tankless heater	▼ Trade Price standard equip. with tankless heater	approx. shipping weight section ass'y
V-33M	V3M-92W(T)	92	.85	222	4	80.0	$327.00	$355.00	613
	V3M-110W(T)	110	1.00	222	4	95.7	327.00	355.00	613
V-34M	V3M-138W(T)	138	1.30	226	5	120.0	437.00	478.00	790
	V3M-156W(T)	156	1.45	226	5	135.7	437.00	478.00	790
V-35M	V3M-184W(T)	184	1.70	232	6	160.0	560.00	610.00	967
	V3M-202W(T)	202	1.90	232	6	175.7	560.00	610.00	967
V-36M	V3M-230W(T)	230	2.15	445	7	200.9	664.00	729.00	1144
	V3M-248W(T)	248	2.35	445	7	215.7	664.00	729.00	1144

STEAM

ST—Steam boiler only with factory installed tankless heater.
S—Steam boiler only.

Section Designation	boiler number	gross I=B=R output mbh	I=B=R burner capacity gbh	tankless heater number	tankless heater rating gpm	net I=B=R rating mbh	net I=B=R sq. ft. steam	▼ Trade Price standard equip. less tankless heater	▼ Trade Price standard equip. with tankless heater	approx. shipping weight section ass'y
V-33M	V3M-92S(T)	92	.85	222	4	69.0	288			613
	V3M-110S(T)	110	1.00	222	4	82.5	344	327.00	355.00	613
V-34M	V3M-138S(T)	138	1.30	226	5	103.5	431	437.00	478.00	790
	V3M-156S(T)	156	1.45	226	5	117.0	489	437.00	478.00	790
V-35M	V3M-184S(T)	184	1.70	232	6	138.0	575	560.00	610.00	967
	V3M-202S(T)	202	1.90	232	6	151.5	631	560.00	610.00	967
V-36M	V3M-230S(T)	230	2.15	445	7	173.3	722	664.00	729.00	1144
	V3M-248S(T)	248	2.35	445	7	186.0	775	664.00	729.00	1144

▲ Gallons of water per minute heated from 40°F to 140°F with 200°F boiler water temperature.
Only oil burners capable of developing 10% CO_2, such as the DH-5 burner, may be used with V-3M oil fired boilers.



Standard equipment:

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.

Optional equipment:

See page 23.

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 33.

Ordering Examples:

1. Water boiler less heater with standard equipment:
   1 V3M-92/110W boiler
2. Steam boiler with heater with standard equipment:
   1 V3M-138/156ST boiler
3. Water boiler with heater with optional equipment:
   1 V3M-230/248WT boiler with jacket extension

OPTIONAL EQUIPMENT
VP(T) PACKAGED BOILER-BURNER UNITS
V-3 NON-PACKAGED BOILER-BURNER UNITS
V-3M NON-PACKAGED BOILER ONLY

JACKET EXTENSIONS

V-3 and V-3M jacket extension provides 17¾" acoustical enclosure in front for concealment of oil burner and controls—specify on order. Trade Price Add **$50.60**

LOW WATER CUT-OFF—McDonald & Miller No. 67AR low water fuel cut-off. Trade Price **$43.00**

Controls and control sets are shown on page 31.

MISC. V-3 BOILER-BURNER UNITS

Two-stage fuel unit. Trade Price **$8.30**

Order R8182D Aquastat-relay combination to permit use of tankless heater with boiler-burner units furnished less water heater. Trade Price **$7.70**

Order R8182E Aquastat-relay combination to provide room thermostat control of circulator. Trade Price..... **$6.00**

FOR V-3 ALL-PURPOSE AND VP(T) BOILER-BURNER UNITS

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 boiler-burner units for forced circulation LESS heater. Added Trade Price **$15.30**

For substitution of No. 5 control set consisting of T822D thermostat, L8124C Aquastat, limit, reverse and operating control, circulator relay, plus R8184G light sensing primary control, instead of R8182D combination control, for non-packaged boiler-burner units for forced circulation WITH tankless heater. Added Trade Price **$6.05**

The No. 5Z Control Set can be used for circulator zoning with 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 **$30.05**

TANKLESS HEATERS FOR V-3, V-3M AND VP BOILERS

Heaters can be ordered for separate shipment for use with units or boilers specified less heater as follows:

RATINGS—Gallons of water per minute from 40°F to 140°F with 200°F boiler water temp.

boiler number	HEATER 222		HEATER 226		HEATER 232		HEATER 445		HEATER 130		HEATER 131		HEATER 132	
	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water	Steam	Water
V3-116/128	4¼	4¾	—	—	—	—	—	—	—	—	—	—	—	—
V3-172/186	4¼	4¾	5¼	5¾	—	—	—	—	—	—	—	—	—	—
V3-228/244	4¼	4¾	5¼	5¾	6¼	7	—	—	—	—	—	—	—	—
V3-284/302	4¼	4¾	5¼	5¾	6¼	7	7¼	8¼	—	—	—	—	—	—
V3M-92/110	4	4½	—	—	—	—	—	—	—	—	—	—	—	—
V3M-138/156	4	4½	5	5½	—	—	—	—	—	—	—	—	—	—
V3M-184/202	4	4½	5	5½	6	6¾	—	—	—	—	—	—	—	—
V3M-230/248	4	4½	5	5½	6	6¾	7	7¾	—	—	—	—	—	—
VP-115/130/140	—	—	—	—	—	—	—	—	—	3½	—	—	—	—
VP-170/190	—	—	—	—	—	—	—	—	—	3½	—	4¾	—	—
VP-230/250	—	—	—	—	—	—	—	—	—	3½	—	4¾	—	6

Note: Because of unique boiler design a second heater may be installed in V3 and V3M water boilers which will increase the intermittent draw rating.

* Appropriate controls must be ordered in addition to heater only above.

Trade Prices

HEATER NUMBER	HEATER ONLY * Water & Steam
222	$39.00
226	53.00
232	65.00
445	83.00
130	43.00
131	43.00
132	69.00

PFA-3 PRESSURE FIRED BOILER-BURNER UNITS

Jacketed—forced draft with flame retention oil burner.
Sealed sections—with or without tankless heaters.
50 lbs. water working pressure, 15 lbs. steam.
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	**$1234.00**	905	8
PFA-35-WT	375	3.30	232	7.5	326.1	2174	**1396.00**	1096	8
PFA-36-WT	450	3.95	445	9.0	391.3	2609	**1563.00**	1287	8
PFA-37-WT	526	4.60	445	9.0	457.4	3049	**1713.00**	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	**$1167.00**	894	8
PFA-35-W	375	3.30	...	...	326.1	2174	**1316.00**	1085	8
PFA-36-W	450	3.95	...	...	391.3	2609	**1466.00**	1276	8
PFA-37-W	526	4.60	...	...	457.4	3049	**1617.00**	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	**$1231.00**	905	8
PFA-35-ST	375	3.30	232	7.5	281.3	1172	**1393.00**	1096	8
PFA-36-ST	450	3.95	445	9.0	337.6	1407	**1560.00**	1287	8
PFA-37-ST	526	4.60	445	9.0	394.6	1644	**1710.00**	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	**$1161.00**	900	8
PFA-35-S	375	3.30	...	...	281.3	1172	**1313.00**	1091	8
PFA-36-S	450	3.95	...	...	337.6	1407	**1460.00**	1282	8
PFA-37-S	526	4.60	...	...	394.6	1644	**1611.00**	1476	8

Nozzle sizes furnished with the above units: (S — solid; H — hollow) PFA-34, 2.50 gph 70° S. 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 40°F to 140°F with 200°F boiler water temperature

■ Vent needs to extend 3 feet above highest part of roof.
Start-up service—price on application.

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. Trade Price **$25.50**

Zone valve packages are available for water boilers. For details and prices, see page 33.

For other optional equipment see page 25.

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

PFA-3 OPTIONAL EQUIPMENT

Jacket extension. Trade Price **$50.60**

No. 5-Z control set for circulator zoning with PFA-3 boiler-burner units equipped for tankless heater. 1 No. 5-Z set required for each zone in addition to the first zone which is controlled by the No. 5 control set or equivalent. Trade Price **$30.05**

McDonnell & Miller No. 67AR low water fuel cut-off for steam. Trade Price **$42.35**

McDonnell & Miller No. 63 low water cut-off for water. Trade Price **$57.50**

Controls and control sets are shown on page 34.

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	▼ heater only* Trade Price
			water	steam		
PFA-34	2.65	226	6.0	6.0	23 psi	$53.00
PFA-35	3.30	232	7.5	7.5	36 psi	65.00
PFA-36	3.95	445	9.0	9.0	37 psi	83.00
PFA-37	4.60	445	9.0	9.0	37 psi	83.00

Gallons of water per minute from 40°F to 140°F with 200°F boiler water temperature
*Appropriate controls must be ordered in addition to heater only above

▼ See page 48

OIL
BOILER-BURNER UNITS
STEAM AND WATER

PFA-5 PRESSURE FIRED BOILER-BURNER UNITS

Jacketed—forced draft with oil burner
50 lbs. water working pressure—15 lbs. steam working pressure
Equipped for tankless heaters.

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			(1) ● oil
PFA-504-* O(T)	620	5.45	1.333	1.15	465 1	539.1	1938	3594	$1944.00	10	1840	95A-1-8702-JBT
PFA-505-* O(T)	786	6.90	1.333	1.15	589.6	683.5	2457	4557	2291.00	10	2210	96A-M-6131-JC-T
PFA-506-* O(T)	950	8.35	1.333	1 15	712.7	826.1	2969	5507	2554.00	10	2520	96A-M-6131-JC-T
PFA-507-* O(T)	1116	9.80	1.333	1.15	837.2	970.4	3488	6469	2924.00	10	2880	96A-B-8316-JC-T
PFA-508-* O(T)	1282	11.20	1.330	1 15	963.9	1114.8	4016	7432	3241.00	10	3190	96A-B-8318-JC-T
PFA-509-* O(T)	1446	12.65	1.315	1.15	1099.6	1257.4	4582	8383	3469.00	14	3550	96A-B-8318-JC-T
PFA-510-* O(T)	1612	14.10	1.302	1.15	1238.1	1401.7	5159	9345	4065.00	14	3935	96A-T-A-8419-JC-T
PFA-511-* O(T)	1776	15.55	1 292	1.15	1374.6	1544.3	5728	10295	4714.00	14	4285	97A-T-A-8614-JC-T
PFA-512-* O(T)	1944	16.95	1 288	1.15	1509.3	1690 4	6289	11269	5087.00	14	4645	97A-T-A-8614-JC-T
PFA-513-* O(T)	2108	18.40	1 288	1.15	1636.6	1833.0	6819	12220	5331.00	14	4955	97A-T-A-8614-JC-T
PFA-514-* O(T)	2272	19.85	1.288	1.15	1764.0	1975.7	7350	13171	5580.00	14	5317	97A-T-A-8615-JC-T
PFA-515-* O(T)	2440	21.25	1.288	1.15	1894.4	2121.7	7893	14145	6101.00	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	6492.00	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	6720.00	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	7168.00	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	7420.00	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	7663.00	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	7951.00	18	7780	98A-Hi-Lo-2-7771-E-1

■ Height 3 feet above highest part of roof

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.

Available as assembled unit or with assembled sections—see page 27

***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 27.

Nozzles sizes—see page

● 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
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				

▼ See page 48

For complete specifications refer to Technical Catalog Bulletin Form No. 3115.2 Rev. 1-1-70

15669

PFA-5 PRESSURE FIRED BOILER-BURNER UNITS

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. On 95-A1, 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, 2 stage fuel unit on all burners.

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 for F.M. or Massachusetts Code requirements for PFA-501 through PFA-511
Added Trade Price $215.00
Burners for PFA-515 through PFA-521 are equipped to meet F.M. requirements. Equipment includes: R4150A which provides pre- and post-purge, C7013A Photo Cell and Q520A Base.)
Oil Burners for F.I.A. requirements—Price on application
Oil burners for PFA-515 thru PFA-521 for Massachusetts Code requirements—Price on application
Prewired Control Panels on burners—Prices on application.
Optional burners and assembly arrangements listed below.

PFA-5 OPTIONAL ASSEMBLY AND OIL BURNERS

	add to Trade Price							
	ABC oil burners		assembled sections	packaged boiler unit	80 lbs. water test	jacket extension	Gordon-Piatt oil burners	
PFA-504	96A-T-A-8406 JBT	$163.00	$ 99.00	$666.00	$ 44.00	$85.15	RL 6 2-0-03-F4B	$82.50
PFA-505	96A-T-A-8408 JBT	153.00	165.00	684.00	55.00	85.15	RL 6 2-0-03-F4B	61.00
PFA-506	96A-T-A-8408 JCT	153.00	198.00	702.00	66.00	85.15	RL 5 2-0-03-F4B	61 00
PFA-507	96A-T-A-8409 JCT	96.00	231.00	719.00	77.00	85.15	RL 8 0-0-05-F4B	28 00
PFA-508	96A-T-A-8410 JCT	96.00	264.00	737.00	88.00	85.15	RL 8 1-0-05-F4B	28 00
PFA-509	96A-HI-LO-A-8808 JCT	350.00	297.00	848.00	99.00	85.15	RL 8 1-0-05-F4B	28 00
PFA-510	96A-HI-LO-A-8808 JCT	254.00	330.00	869.00	110.00	85.15	RL 8 2-0-10-F4B	77 00
PFA-511			363.00	889.00	121.00	85.15	RL 8 2-0-10-F4B	—
PFA-512			396.00	910.00	132.00	85.15	RL 8 2-0-10-F4B	—
PFA-513			429.00	929.00	143.00	85.15	RL 8 2-0-15-F4B	—
PFA-514			462.00	949.00	154.00	85.15	RL 8 3-0-15-F4B	—
PFA-515			495.00	969.00	165.00	85.15	RL 8 4-0-20-F4B	—
PFA-516			528.00	990.00	176.00	85.15	RL 8 4-0-20-F4B	—
PFA-517			561.00	1010.00	187.00	85.15	RL 10 1-0-20-F4B	—
PFA-518			594.00	1031.00	198.00	85.15	RL 10 1-0-20-F4B	—
PFA-519			627.00	1050.00	209.00	85.15	RL 10 1-0-30-GP100R-F4B	—
PFA-520			660.00	1071.00	220.00	85.15	RL 10 1-0-30-GP100R-F4B	—
PFA-521			693.00	1091.00	231.00	85.15	RL 10 1-0-30-GP100R-F4B	—

▼ See page 48

PFA-5 PRESSURE FIRED BOILER-BURNER UNITS

Jacketed—forced draft with gas burner
50 lbs. water working pressure—15 lbs. steam working pressure.
Equipped for tankless heaters.

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							
gas		gas input Mbh	steam	water	steam	water	sq. ft. steam		gas			gas
PFA-504-* G(T)	620	763	1.333	1.15	465.1	539.1	1938	3594	**$3111.00**	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	**3434.00**	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	**3687.00**	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	**4114.00**	10	2880	R8-G-05-R4795-B 12
PFA-508-* G(T)	1282	1568	1.330	1.15	963.9	1114.8	4016	7432	**4446.00**	10	3190	R8-G-05-R4795-B 15
PFA-509-* G(T)	1446	1771	1.315	1.15	1099.6	1257.4	4582	8383	**4674.00**	14	3550	R8-G-05-R4795-B 15
PFA-510-* G(T)	1612	1974	1.302	1.15	1238.1	1401.7	5159	9345	**5273.00**	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	**5990.00**	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	**6386.00**	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	**6699.00**	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	**6948.00**	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	**7170.00**	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	**7650.00**	18	5985	R10-G-15-4150A-H 25S
PFA-517-* G(T)	2768	3381	1.288	1.15	2149.1	2407.0	8954	16047	**7878.00**	18	6345	R10-G-15-4150A-H 25S
PFA-518-* G(T)	2936	3584	1.288	1.15	2279.5	2553.0	9498	17020	**8124.00**	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	**8628.00**	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	**8872.00**	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	**9160.00**	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. Suffix (T) denotes boiler with openings in center section for tankless heaters when specified. For Built-in Water Heaters, see page 27.

■ Height 3 feet above highest part of roof.

Available as assembled unit or assembled sections—see page 27

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. Electronic 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.

Gas and Gas-Oil Burners not stocked at Bond Plant 3 to 4 weeks lead time for shipment of Standard Equipped Burners after receipt of order at Hydronic Order Service Center

Optional Equipment

PFA-5 units for Factory Mutual and Factory Insurance Association *minimum* requirements at the following added charges:

boiler size	gas fired F.M.	gas fired F.I.A.
PFA-504–510	$682.00	$ 827.00
PFA-511–515	811.00	1074.00
PFA-516–521	811.00	1074.00

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.

High Risk F.M. or F.I.A. requirements	Price on Application
Hi-Lo Fire Control	
Modulating Fire Control	
Alarm System pre-wired and mounted on control cabinet	
Optional Combustion Controls	
Controls to meet local requirements	

For Additional Optional Equipment and assembly arrangements, see page 27.

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 PRESSURE FIRED BOILER-BURNER UNITS

Jacketed—forced draft with combination gas/oil burner.
50 lbs. water working pressure—15 lbs. steam working pressure.
Equipped for tankless heaters.

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
		gas input Mbh			Mbh		sq. ft. steam					▲
gas—light oil			steam	water	steam	water			gas—oil			gas—oil
PFA-504-* GO(T)	620	763	1.333	1.15	465.1	539.1	1938	3594	$3636.00	10	1840	R6.2-GO-03-R4795-B 12S-F4B
PFA-505-* GO(T)	786	966	1.333	1.15	589.6	683.5	2457	4557	3959.00	10	2210	R6.2-GO-03-R4795-B.12S-F4B
PFA-506-* GO(T)	950	1169	1.333	1.15	712.7	826.1	2969	5507	4309.00	10	2520	R6.2-GO-03-R4795-B.12-F4B
PFA-507-* GO(T)	1116	1372	1.333	1.15	837.2	970.4	3488	6469	4679.00	10	2880	R8-GO-05-R4795-B 12-F3
PFA-508-* GO(T)	1282	1568	1.330	1.15	963.9	1114.8	4016	7432	5082.00	10	3190	R8-GO-05-R4795-B 15-F3
PFA-509-* GO(T)	1446	1771	1.315	1.15	1099.6	1257.4	4582	8383	5310.00	14	3550	R8-GO-05-R4795-B.15-F3
PFA-510-* GO(T)	1612	1974	1.302	1.15	1238.1	1401.7	5159	9345	5961.00	14	3935	R8 1-GO-05-R4795-B 20-F3
PFA-511-* GO(T)	1776	2177	1.292	1.15	1374.6	1544.3	5728	10295	6443.00	14	4285	R8.2-GO-07-4150A-H.20-F4H
PFA-512-* GO(T)	1944	2373	1.288	1.15	1509.3	1690.4	6289	11269	6927.00	14	4645	R8.3-GO-10-4150A-H 20-F4H
PFA-513-* GO(T)	2108	2576	1.288	1.15	1636.6	1833.0	6819	12220	7243.00	14	4955	R10.9-GO-10-4150A-H 20-F4H
PFA-514-* GO(T)	2272	2779	1.288	1.15	1764.0	1975.7	7350	13171	7492.00	14	5315	R10.9-GO-10-4150A-H 20-F4H
PFA-515-* GO(T)	2440	2975	1.288	1.15	1894.4	2121.7	7893	14145	7714.00	14	5675	R10.9-GO-10-4150A-H 20-F4H
PFA-516-* GO(T)	2604	3178	1.288	1.15	2021.7	2264.3	8424	15095	8190.00	18	5985	R10-GO-15-4150A-H 25S-F4H
PFA-517-* GO(T)	2768	3381	1.288	1.15	2149.1	2407.0	8954	16047	8418.00	18	6345	R10-GO-15-4150A-H.25S-F4H
PFA-518-* GO(T)	2936	3584	1.288	1.15	2279.5	2553.0	9498	17020	8768.00	18	6750	R10 1-GO-20-4150A-H 25S-F4H
PFA-519-* GO(T)	3100	3780	1.288	1.15	2406.8	2695.7	10028	17971	9188.00	18	7060	R10 1-GO-20-4150A-H 25-F4H
PFA-520-* GO(T)	3260	3983	1.288	1.15	2531.1	2834.8	10546	18899	9548.00	18	7420	R10.1-GO-30-4150A-H 25-F4H
PFA-521-* GO(T)	3430	4186	1.288	1.15	2663.0	2982.6	11096	19884	9836.00	18	7780	R10 1-GO-30-4150A-H 25-F4H

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 OIL UNIT (1)
Suffix (T) denotes boiler with openings in center section for tankless heaters when specified. For Built-in Water Heaters, see page 27

■ Height 3 feet above highest part of roof.

Available as assembled unit or assembled sections—see page 27

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-Light Oil Fired

Flange mounted combination gas-oil burner. Standard burner controls meet latest UL requirements. Manually operated fuel switch for dual fuel change-over. Dual automatic gas valves for added reliability. Gas-electric ignition.

Electronic 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 burner equipped to operate on No. 1 or No. 2 fuel oil and 1,000 Btu, 0.6 specific gravity natural gas.

Standard Motor Voltages

unit number	gas-oil burners
PFA-504—510	115-60-1
PFA-511	230-60-1
PFA-512—521	230-60-3

Other optional motor voltages—Price on Application.

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

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

▲ Nozzle sizes, gph, furnished with combination gas-light oil burners are as follows. (nozzle capacity is dependent on oil pressure.)

unit	no. gph.	type	unit	no. gph.	type	unit	no. gph	type
PFA-504	1 4.00	90°H	PFA-510	2 5.00	90°S	PFA-516	2 7.00	60°S
PFA-505	1 5.00	90°H	PFA-511	2 5.50	90°S	PFA-517	2 8.00	60°S
PFA-506	1 6.50	90°H	PFA-512	2 6.00	90°S	PFA-518	2 8.00	60°S
PFA-507	2 4.00	90°S	PFA-513	2 7.00	60°S	PFA-519	2 8.00	60°S
PFA-508	2 4.00	90°S	PFA-514	2 7.00	60°S	PFA-520	2 8.50	60°S
PFA-509	2 5.00	90°S	PFA-515	2 7.00	60°S	PFA-521	2 9.00	60°S

Optional Equipment

PFA-5 units for Factory Mutual and Factory Insurance Association *minimum* requirements at the following added charges:

boiler size	gas-oil fired F.M.	gas-oil fired F.I.A.
PFA-504—510	$ 824.00	$ 899.00
PFA-511—515	1059.00	1227.00
PFA-516—521	1054.00	1239.00

Automatic Fuel Changeover
Trade Price ▼ $237.00

For prices of gas-oil 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.

High Risk F.M. or F.I.A. requirements . .
Hi-Lo Fire Control . . .
Modulating Fire Control . . . **Price**
Alarm System pre-wired and mounted on control cabinet . **on**
Optional Combustion Controls . **Application**
Controls to meet local requirements

Additional optional equipment and assembly arrangements—see page 27.

Gas and Gas-Oil Burners not stocked at Bond Plant 3 to 4 weeks will be required for shipment of Standard Equipped Burners after receipt of order at Hydronic Order Service Center.

▼ See page 48

For complete specifications refer to Technical Catalog Bulletin Form No. 3113-2 Rev. 3-6-72

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	pres. drop at rated flow	▼ Trade Price each
530	A-5, FR-A-5	15 psi	$54.00
548	PFA-5	16 psi	89.55

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

STEAM: L4006A Aquastat operating control.
Trade Price $16.90

WATER: L6006A Aquastat operating and circulator control.
Trade Price $17.95

Cover plate required to close unused water heater openings will be furnished if specified on order for "T" type boiler. Trade Price each . . . . . .

PFA-5 A-5, FRA-5 . . . . Trade Price each $5.45

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	$11.05
3 Heater	16.00
4 Heater	20.50

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

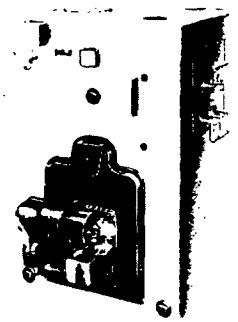
*Gallons of water per minute raised from 40°F to 140°F with 200°F boiler water temperature.

McDONNELL & MILLER LOW WATER CUT-OFFS

	▼ Trade Price
STEAM: No. 369 Low Water Cut-off for A-5, FR-A-5, PFA-5	$ 34.30
No. 47-2 Feeder and Cut-off for A-5, FR-A-5, PFA-504 thru PFA-509	98.00
No. 51-2 Feeder and Cut-off for PFA-510 thru PFA-521	127.05
WATER—50 PSI: No. 63 Low Water Cut-off for A-5, FR-A-5 and PFA-5	57.50
WATER—80 PSI: No. 150 Low Water Cut-off for PFA-5	85.90

FR-A-5 FLAME RETENTION BOILER-BURNER UNITS

Jacketed—50 lbs. water working pressure—15 lbs. steam working pressure. Sections precision ground—with or without tankless heaters. 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 27.							
FR-A-504-WB(T)	384	3.55	333.9	2226	$1394.00	1576	12 x 12 x 15
FR-A-505-WB(T)	472	4.30	410.4	2736	1542.00	1827	12 x 12 x 20
FR-A-506-WB(T)	560	5.10	487.0	3246	1798.00	2110	12 x 12 x 20
FR-A-507-WB(T)	648	5.90	563.5	3756	1963.00	2367	12 x 16 x 20
FR-A-508-WB(T)	736	6.70	640.0	4266	2288.00	2626	12 x 16 x 20
FR-A-509-WB(T)	824	7.45	716.5	4776	2453.00	2890	12 x 16 x 20
FR-A-510-WB(T)	912	8.25	793.0	5286	2630.00	3144	16 x 16 x 20
FR-A-511-WB(T)	1000	9.05	869.6	5797	2805.00	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	1394.00	1577	12 x 12 x 15
FR-A-505-SB(T)	472	4.30	354.1	1475	1542.00	1828	12 x 12 x 20
FR-A-506-SB(T)	560	5.10	420.1	1750	1798.00	2112	12 x 12 x 20
FR-A-507-SB(T)	648	5.90	486.1	2025	1963.00	2369	12 x 16 x 20
FR-A-508-SB(T)	736	6.70	552.1	2301	2288.00	2628	12 x 16 x 20
FR-A-509-SB(T)	824	7.45	618.2	2576	2453.00	2892	12 x 16 x 20
FR-A-510-SB(T)	912	8.25	684.2	2851	2630.00	3147	16 x 16 x 20
FR-A-511-SB(T)	1000	9.05	750.2	3126	2805.00	3395	16 x 16 x 20

*IHAGC nozzle sizes gph furnished for above units: FRA-504 3.5 80 P; FRA-505 4 60 P; FRA-506 5 60 P; FRA-507 6 60 P; FRA-508 6.5 45 P; FRA-509 7.5 45 P; FRA-510 8 45 P; FRA-511 9 45 P.

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; delayed oil valve on model LC-534-A and instantaneous on HC-34A oil burners; light sensing primary control.

boiler-burner unit number	oil burner
FRA-504 thru FRA-507	LC-534A-D 41752
FRA-508 thru FRA-511	HC-34-A-D 41751

Draft regulator
Drain valve

15674

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

80 lbs. water test. Trade Price per section $11.00
Jacket extension. Trade Price $56.00

Cover plate required to close unused water heater opening furnished if specified on order for "T" type boiler. Trade Price each $5.45

For Factory Mutual Approval and Massachusetts code requirements, special electronic flame safeguard controls are available, with R4150A Protectorelay, C-7013A photocell, and safety oil valve.

oil heating unit	burner model	▼ added Trade Price charge
FRA-504 thru FRA-507	LC-534A-D 41431	$282.00
FRA-508 thru FRA-511	HC-34-A-D 41431	282.00

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:

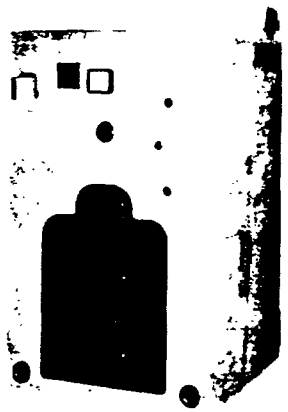
Control Set	added charge
Steam control set No. 2	$16.90
Water control set No. 4	12.15
Water control set No. 5	25.85
Water control set No. 5-Z	30.05

*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 48



A-5 OIL FIRED BOILERS

Jacketed—50 lbs. water working pressure—15 lbs. steam working pressure. Sections with or without tankless heater.

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 27.							
A-504-W(T)	261	2.55	227.0	1513	$1002.00	1518	8 x 12 x 15
A-505-W(T)	346	3.30	300.9	2006	1151.00	1770	8 x 12 x 20
A-506-W(T)	426	4.00	370.4	2469	1311.00	2025	12 x 12 x 20
A-507-W(T)	508	4.75	441.7	2944	1477.00	2282	12 x 12 x 20
A-508-W(T)	588	5.55	511.3	3408	1636.00	2539	12 x 16 x 25
A-509-W(T)	668	6.30	580.9	3872	1794.00	2794	12 x 16 x 25
A-510-W(T)	748	7.00	650.4	4336	1959.00	3050	12 x 16 x 25
A-511-W(T)	830	7.65	721.7	4811	2129.00	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	$1002.00	1519	8 x 12 x 15
A-505-S(T)	346	3.30	259.6	1082	1151.00	1771	8 x 12 x 20
A-506-S(T)	426	4.00	319.6	1332	1311.00	2027	12 x 12 x 20
A-507-S(T)	508	4.75	381.1	1588	1477.00	2284	12 x 12 x 20
A-508-S(T)	588	5.55	441.1	1838	1636.00	2541	12 x 16 x 25
A-509-S(T)	668	6.30	501.1	2088	1794.00	2796	12 x 16 x 25
A-510-S(T)	748	7.00	561.1	2338	1959.00	3052	12 x 16 x 25
A-511-S(T)	830	7.65	622.7	2594	2129.00	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 furnished if specified on order for "T" type boiler. Trade Price each **$5.45**

Zone valve packages are available for water boilers. For details and prices, see page 33.

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

Jacket extension: Trade Price **$56.00**

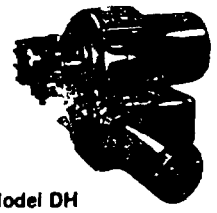
80 lbs. water test. Trade Price per section **$11.00**

For complete specifications refer to Technical Catalog Bulletin Form No. 758-2 (Rev. 2-5-7)

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	$51.00	158
A-505	15-A	3.30	51.00	163
A-506	15-AA	4.00	65.00	176
A-507, A-508	16-A	5.55	65.00	180
A-509, A-510, A-511	17-A	7.65	74.00	200



Model DH

DH OIL BURNERS The DH burner. 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	▼ Trade Price with nozzle: less cad cell	app. ship. weight: ●with control set
DH-4-F	.55 - 3.00	4	4	sling	$208.00	$186.00	$148.15	55
DH-5-F	.55 - 3.00	4	5	sling	208.00	186.00	148.15	55
DH-5	.55 - 3.00	4	5	sling	208.00	186.00	148.15	55
DH-8	.65 - 3.00	4	8	pedestal	218.00	191.00	153.70	60
DH-15	.65 - 3.00	4	15	or	218.00	191.00	153.70	64
DH-23	.65 - 3.00	4	23	flange	218.00	191.00	153.70	68

boiler-burner unit	oil burner	controls
V-3M boiler unit	DH-5	Primary control, controls. Cad cell factory installed. Draft regulator.

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

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.

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

no.	firing rate gph
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 available for DH oil burners.

Trade Price $8.30

Controls and control sets are shown on page 31

Ordering Examples:

1. Oil Burner
   1 DH-5 oil burner with No. 5 control set and 1.25 gph 70° solid nozzle for V3M-138WT boiler-burner unit
2. Oil Burner
   1 DH-23 oil burner with No. 3 control set, 1.50 gph 60° solid nozzle, with pedestal.

For complete specifications refer to Technical Catalog Bulletin Form No 60-2 (Rev.)

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 $106.00

No. Z-3 Package for 3 Zones

2 T822D thermostats
3 V8043F ¾" zone valves soldered to manifold
Less transformer
▼ Trade Price $140.00

No. Z-4 Package for 4 Zones

3 T822D thermostats
4 V8043F ¾" zone valves soldered to manifold
With transformer
▼ Trade Price $190.00

Each zone valve package consists of 2, 3, or 4 Honeywell ¾" zone valves soldered to manifold with 1¼" NPT inlet, wired to low voltage leads for transformer and all (auxiliary) switches 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.

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.

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 $4.00

Honeywell V8043F ¾" Zone Valve sold separately ▼ Trade Price each $25.00

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For complete specifications refer to Technical Catalog Bulletin Form No 2568-2 (1 69)

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	$16.90
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	$12.15
no. 5 forced water	V-3, V-3M, A-5, FR-A-5 units **only** with year-round domestic hot water	T822D L8124C	Thermostat Aquastat limit, reverse and operating control, circulator relay	$25.85
no. 5-Z forced water	V-3, V-3M, 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	$30.05

CONTROLS

number	description	▼ Trade Price
T822D *	thermostat, adjustable heater 0.18 to 0.8 amp.	$ 7.70
TS822A	thermostat, millivolt	7.70
T882A *	thermostat, electric clock	37.20
L4006A	Aquastat operating control	16.90
L4006E	Aquastat operating control; locks out on high limit setting; manual reset	19.40
L4081B	Aquastat limit and circulator control	25.15
L4080D	Aquastat limit control	13.00
L4080B	Aquastat limit control	13.00
L6006A	Aquastat operating and circulator control	17.95
	Aquastat limit, reverse and operating control, circulator relay:	
L8124C	line voltage burner control, horizontal case for gas or oil	38.85
L8124B	millivolt burner circuit for gas with manual-auto switch, vertical case	35.30
L8124E	low voltage burner circuit for gas, vertical case. Power for 2 zone valves	38.15
	Aquastat-relay combination, high limit and line voltage circulator control, horizontal case:	
L404C	Pressuretrol w/man. reset	34.20
L604A	SPDT operating controller	33.95
L8148E	low voltage burner control for gas. Power for 2 zone valves.	24.40
L8148G	millivolt burner control for gas. Power for 3 zone valves.	26.85

number	description	▼ Trade Price
PA404A	Pressuretrol	$19.35
RA89A	relay, SPST	17.75
RA832A	relay, DPST	22.35
R845A	relay, DPST	22.35
R8226B	Transformer and circulator relay	13.00
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.	58.20
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.	56.50
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.	50.55
R8184G	light sensing primary control, less cad cell:	
	R8184G1005 — safety-switch timing-seconds: 60 — gph: 3	30.55
	R8184G1021 — safety-switch timing-seconds: 30 — gph: 3-7	34.45
	R8184G1013 — safety-switch timing-seconds: 15 — gph: 7-20	34.45
120320	cadmium sulfide cell only	2.40

To substitute T882A for T822D Thermostat; specify on order control set with suffix "B" and add difference to trade price from above.

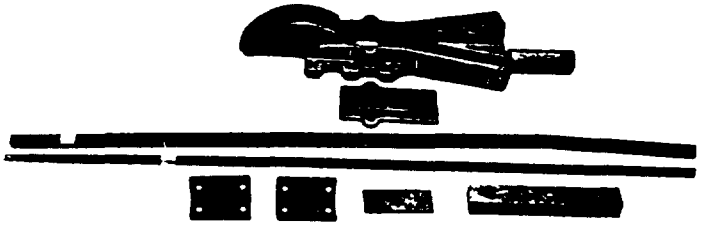
PACKAGED HYDRAULIC ASSEMBLING TOOL: All necessary parts to assemble any American-Standard sectional boiler, except long tie rods, shipped in one packing case; the long tie rods are furnished in their own wooden box. Total weight approximately 250 lbs.

▼ **Trade Price – $700.00**



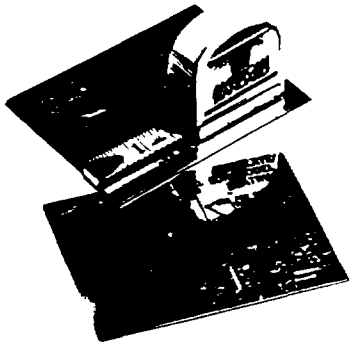
HEATRIM COPPER TUBE BENDING TOOL: Designed to bend riser tube connections for Model R Heatrim baseboard panels. Complete instructions for tool use included.

▼ **Trade Price each – $18.50**



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 — $3.50**



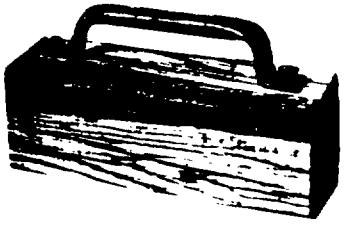
ALUMINUM NIPPLE-SETTING-HAMMER: —consists of a 2 lb. 2½" diameter aluminum head and a 14" long hardwood handle. The aluminum head will not damage the nipple edges and permits the heavy blows necessary to set nipples to the recommended depth quickly.

▼ **Trade Price each – $5.80**



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.

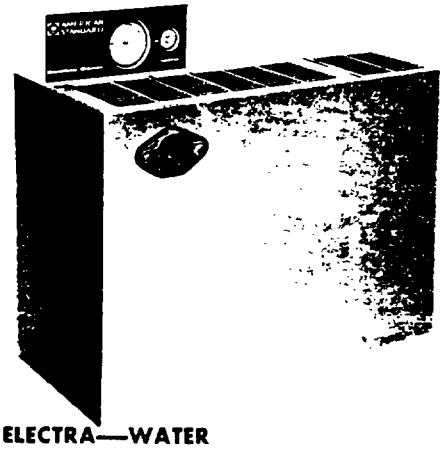
▼ **Trade Price each – $17.05**



▼ See page 48

PACKAGED ELECTRO-HYDRONIC BOILERS

ELECTRA



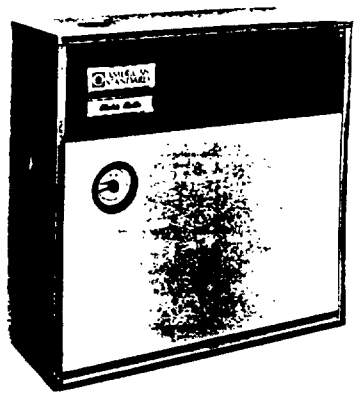
Underwriters Laboratories Inc.
LISTED
ELECTRIC CENTRAL HEATING BOILER
WITH INTEGRAL LIMIT CONTROL
E38076 No 000 000

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.

ELECTRA II



ELECTRA—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	**$541.00**	98
EP-51	3	15,000	51,195	62.4	**559.00**	99
EP-68	4	20,000	68,260	83.2	**582.00**	100
EP-82	5	24,000	81,912	100.0	**603.00**	102

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

ELECTRA II—WATER

packaged unit number	number of elements	output watts	■ output btuh	amps @ 240 volts	▼ Trade Price with standard equipment	approx. shipping weight
EP-7	1	2,000	6,826	8.34	**$270.00**	49
EP-10	1	3,000	10,236	12.50	**270.00**	49
EP-14	1	4,000	13,648	16.65	**270.00**	49
EP-17	1	5,000	17,060	20.81	**270.00**	49
EP-20	1	6,000	20,472	25.00	**270.00**	49

Standard Equipment

ELECTRA

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

ELECTRA II

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

ELECTRA 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) provides 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	**$15.55**
EP-82	**30.05**

Note: Zone valve packages are available for water boilers. For details and prices, see page 33.

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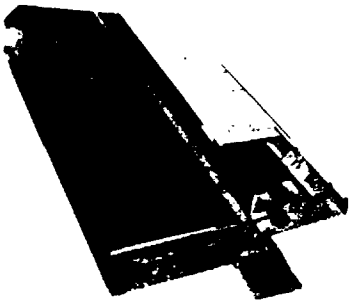
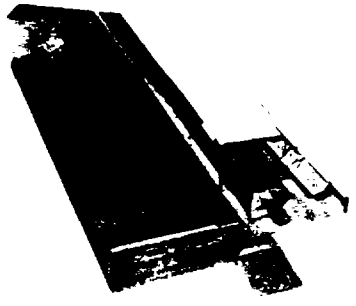
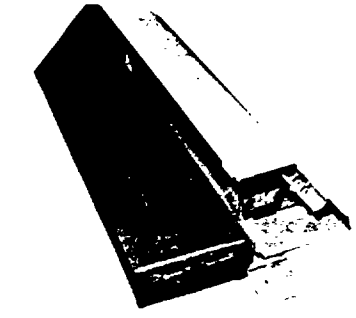
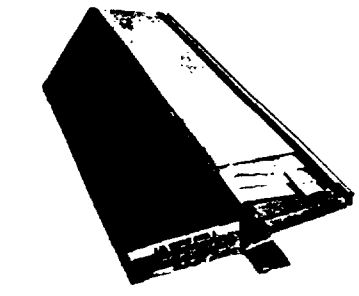
For complete specifications refer to Technical Catalog Bulletin Form No. 2128-2 (Rev. 3-70), 315-2 (Rev. 4-9-70)

MODEL R HEATRIM PANELS

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

(For ¾" Model R-750 and ½" Model R-500 Panels)

	DESCRIPTION	ordering number	packaged per	▼ Trade Price	approx. shipping weight
	**MODEL R-750-A COMPLETE ASSEMBLED UNITS (Single Pack)** includes 1 each of front and back panel, ¾" element, damper, support brackets, slide cradles and 1 set joining pieces. (See Note #1) Finished with white prime paint. All factory assembled. Box Color Coded—Red **Ordering Example:** 1—box R-750-A4		*per lineal foot	$ 2.65	
		R-750-A2	2 ft. length	$ 5.30	5
		R-750-A3	3 ft. length	7.95	7
		R-750-A4	4 ft. length	10.60	9
		R-750-A5	5 ft. length	13.25	12
		R-750-A6	6 ft. length	15.90	13
		R-750-A7	7 ft. length	18.55	16
		R-750-A8	8 ft. length	21.20	18
	**MODEL R-500-A COMPLETE ASSEMBLED UNITS (Single Pack)** includes 1 each of front and back panel, ½" element, damper, support brackets, slide cradles and 1 set joining pieces. (See Note #1) Finished with white prime paint. All factory assembled. Box Color Coded—Green **Ordering Example:** 1—box R-500-A3		*per lineal foot	$ 2.52	
		R-500-A2	2 ft. length	$ 5.04	5
		R-500-A3	3 ft. length	7.56	7
		R-500-A4	4 ft. length	10.08	9
		R-500-A5	5 ft. length	12.60	11
		R-500-A6	6 ft. length	15.12	14
		R-500-A7	7 ft. length	17.64	15
		R-500-A8	8 ft. length	20.16	18
	**MODEL R ENCLOSURE ONLY—ASSEMBLED (Single Pack)** includes 1 each of front and back panel, damper, support brackets, slide cradles and 1 set joining pieces. (See Note #1) Finished with white prime paint. All factory assembled. Box Color Coded—Black **Ordering Example:** 1—box R-3-A		*per lineal foot	$ 1.30	
		R-3-A	3 ft. length	$ 3.90	6
		R-4-A	4 ft. length	5.20	8
		R-5-A	5 ft. length	6.50	10
		R-6-A	6 ft. length	7.80	11
		R-7-A	7 ft. length	9.10	13
		R-8-A	8 ft. length	10.40	15
		R-10-A	10 ft. length	13.00	17
		R-12-A	12 ft. length	15.60	19
	**MODEL R ENCLOSURES ONLY—UNASSEMBLED (Bulk Pack)** includes 3 sets of front and back panels, dampers with clips, support brackets, slide cradles and 2 sets of joining pieces. (See Note #1) Finished with white prime paint. Unassembled. Box Color Coded—Blue **Ordering Example:** 1—box R-5-B		*per lineal foot	$ 1.17	
		R-3-B	three 3' lengths	$10.53	16
		R-4-B	three 4' lengths	14.04	21
		R-5-B	three 5' lengths	17.55	26
		R-6-B	three 6' lengths	21.06	30
		R-7-B	three 7' lengths	24.57	35
		R-8-B	three 8' lengths	28.08	40
		R-10-B	three 10' lengths	35.10	48
		R-12-B	three 12' lengths	42.12	58

*For comparative and estimating purposes only.

Note #1: Joining pieces not included on 2 ft. or 3 ft. sections.

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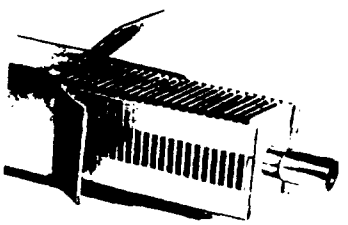
▼ See page 48

MODEL R HEATRIM ELEMENTS AND ACCESSORIES



DESCRIPTION	ordering number	packaged per	Trade Price	approx. shipping weight
		*per lineal foot	$ 1.43	
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	$25.74	9
	E-750-4	six 4' lengths	34.32	12
	E-750-5	six 5' lengths	42.90	16
	E-750-6	six 6' lengths	51.48	18
	E-750-7	six 7' lengths	60.06	22
	E-750-8	six 8' lengths	68.64	25
		*per lineal foot	$ 1.30	
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	$23.40	8
	E-500-4	six 4' lengths	31.20	10
	E-500-5	six 5' lengths	39.00	12
	E-500-6	six 6' lengths	46.80	16
	E-500-7	six 7' lengths	54.60	19
	E-500-8	six 8' lengths	62.40	21

ACCESSORIES

End Cap–3" wide–Right Hand	RA-ECR-03	box of 10	$10.84	4
End Cap–3" wide–Left Hand	RA-ECL-03	box of 10	10.84	4
Valve Enclosure–4" wide–Right Hand	RA-VER-04	box of 10	14.67	9
Valve Enclosure–4" wide–Left Hand	RA-VEL-04	box of 10	14.67	9
Valve Enclosure–6" wide–Right Hand	RA VER-06	box of 10	22.41	10
Valve Enclosure–6" wide–Left Hand	RA VEL-06	box of 10	22.41	10
Inside Corner–hinged front and top–90°	RA-ICF-90	box of 10	13.38	3
Inside Corner–back piece–90°	RA ICB 90	box of 10	4.27	4
Inside Corner–one-piece front and top–135°/45°	RA-ICF-45	box of 10	13.34	2
Inside Corner–back piece–135°/45°	RA ICB-45	box of 10	4.07	2
Outside Corner–90°	RA-OCF-90	box of 10	16.01	5
Outside Corner–135°/45°	RA-OCF 45	box of 10	18.68	3
Filler piece set–7" wide	RA-FPS 07	box of 10	10.80	9
Filler piece set–14" wide	RA-FPS-14	box of 5	8.26	9
Wall End Piece–3" wide	RA-WEP-03	box of 10	5.60	4
Return tubing wire hangers	RA-WHR-50	bag of 50	2.67	—
Connecting tubing wire hangers	RA-WHS-50	bag of 50	2.81	—
Joining piece set–2" wide	RA-JPS-02	box of 20 sets	9.41	5
Extra support brackets with slide cradles and damper clips	RA-SBP-20	box of 20 sets	6.93	5
Tube bending tool	—	—	18.50	—

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.

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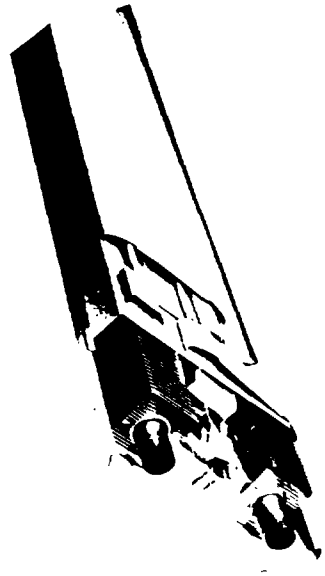
▼ See page 48
For complete specifications refer to Technical Data and Engineering Form No. 1148-2 Rev. 2-72

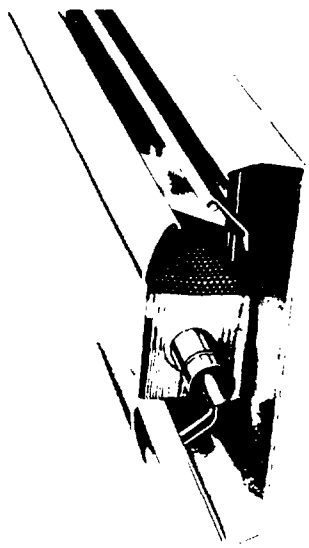
MODEL SS HEATRIM PANELS, ELEMENTS AND ACCESSORIES

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) Box includes 2 each of front and back panel, ¾" element, damper, support brackets and slide cradles and 1 joining piece set (see Note #1). Finished with off-white prime paint. **Ordering Example:** 1—box SS-75-6		*per lineal foot $ 4.07		
	SS-75-2	Two 2 ft. lengths	$16.28	14
	SS-75-3	Two 3 ft. lengths	24.42	20
	SS-75-4	Two 4 ft. lengths	32.56	26
	SS-75-5	Two 5 ft. lengths	40.70	33
	SS-75-6	Two 6 ft. lengths	48.84	39
	SS-75-7	Two 7 ft. lengths	56.98	46
	SS-75-8	Two 8 ft. lengths	65.12	52
MODEL SS-100 COMPLETE UNITS (Dual Pack) Box includes 2 each of front and back panel, 1" element, damper, support brackets and slide cradles and 1 joining piece set (see Note #1). Finished with off-white prime paint. **Ordering Example:** 1—box SS-100-5		*per lineal foot $ 4.57		
	SS-100-2	Two 2 ft. lengths	$18.28	14
	SS-100-3	Two 3 ft. lengths	27.42	20
	SS-100-4	Two 4 ft. lengths	36.56	26
	SS-100-5	Two 5 ft. lengths	45.70	33
	SS-100-6	Two 6 ft. lengths	54.84	39
	SS-100-7	Two 7 ft. lengths	63.98	46
	SS-100-8	Two 8 ft. lengths	73.12	52



MODEL SS1-75 COMPLETE UNITS (Single Pack) Assembled Box includes 1 each of front and back panel, ¾" element, damper, joining piece set (see Note #1), support brackets and slide cradles. Finished with off-white prime paint. **Ordering Example:** 1—box SS1-75-7		*per lineal foot $ 4.24		
	SS1-75-2	2 ft. length	$ 8.48	7
	SS1-75-3	3 ft. length	12.72	11
	SS1-75-4	4 ft. length	16.96	14
	SS1-75-5	5 ft. length	21.20	18
	SS1-75-6	6 ft. length	25.44	21
	SS1-75-7	7 ft. length	29.68	25
	SS1-75-8	8 ft. length	33.92	28
MODEL SS1-100 COMPLETE UNITS (Single Pack) Assembled Box includes 1 each of front and back panel, 1" element, damper, joining piece set (see Note #1), support brackets and slide cradles. Finished with off-white prime paint. **Ordering Example:** 1—box SS1-100-6		*per lineal foot $ 4.73		
	SS1-100-2	2 ft. length	$ 9.46	7
	SS1-100-3	3 ft. length	14.19	11
	SS1-100-4	4 ft. length	18.92	14
	SS1-100-5	5 ft. length	23.65	18
	SS1-100-6	6 ft. length	28.38	21
	SS1-100-7	7 ft. length	33.11	25
	SS1-100-8	8 ft. length	37.84	28

NOTE #1: Joining pieces not included with 2 ft. or 3 ft. sections.

*For comparative and estimating purposes only.

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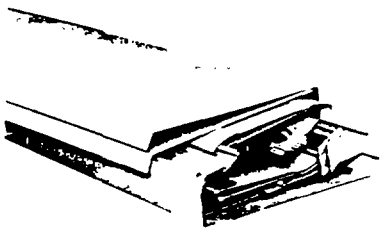
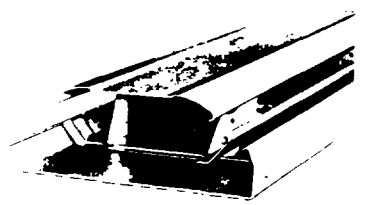
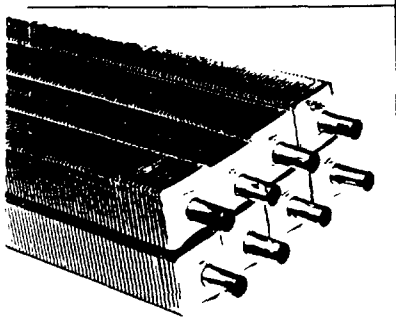
▼ See page 48

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, support brackets, connecting tube wire hangers and 3 joining piece sets (see Note #1). Finished with off-white prime paint. **Ordering Example:** 1—box SS-8		*per lineal foot	$ 2.15	
		SS-3	Four 3 ft. lengths	$25.80	31
		SS-4	Four 4 ft. lengths	34.40	42
		SS-5	Four 5 ft. lengths	43.00	52
		SS-6	Four 6 ft. lengths	51.60	63
		SS-7	Four 7 ft. lengths	60.20	73
		SS-8	Four 8 ft. lengths	68.80	84
	**MODEL SS1 ENCLOSURES ONLY** (Single Pack) Assembled Box includes 1 each of front and back panel, damper, joining piece set (see Note #1), support brackets and connecting tube wire hangers. Finished with off-white prime paint. **Ordering Example:** 1—box SS1-6		*per lineal foot	$ 2.37	
		SS1-3	3 ft. length	$ 7.11	11
		SS1-4	4 ft. length	9.48	14
		SS1-5	5 ft. length	11.85	18
		SS1-6	6 ft. length	14.22	22
		SS1-7	7 ft. length	16.59	25
		SS1-8	8 ft. length	18.96	29
	**ES-75-8** (¾" tube) **ELEMENTS ONLY** (Bulk Pack) Box includes eight 8 foot lengths of ¾" element and slide cradles. **Ordering Example:** 1—box ES-75-8		*per lineal foot	$ 1.98	
		ES-75-8	Eight 8 ft. lengths	$126.72	42
	ES-100-8 (1" tube) **ELEMENTS ONLY** (Bulk Pack) Box includes eight 8 foot lengths of 1" element and slide cradles. **Ordering Example:** 1—box ES-100-8		*per lineal foot	$ 2.42	
		ES-100-8	Eight 8 ft. lengths	$154.88	48

ACCESSORIES

R. H. 2½" End Covers (Extend to Floor)	SS-ECR-25F	Box of 12	$18.70	9
L. H. 2½" End Covers (Extend to Floor)	SS-ECL-25F	Box of 12	18.70	9
R. H. 6" End Covers (Extend to Floor)	SS-ECR-06F	Box of 12	22.70	7
L. H. 6" End Covers (Extend to Floor)	SS-ECL-06F	Box of 12	22.70	7
Inside Corner Covers	SS-IC-90	Box of 12	9.35	5
R. H. Valve Enclosures with hinged access door	SS-VER-06H	Box of 12	40.05	13
L. H. Valve Enclosures with hinged access door	SS-VEL-06H	Box of 12	40.05	13
Wall End Pieces (Extend to Floor)	SS-WEP-25F	Box of 12	6.65	4
Outside Corner Covers	SS-OC-90	Box of 4	16.05	5
14" Filler Pieces	SS-FPS-14	Box of 6	16.05	14
2" Joining Piece Sets	SS-JPS-02	Box of 24	6.70	4
Support Brackets, Slide Cradles, Damper Clips	SS-SBP-24	Box of 24	13.30	10
Return Pipe Hangers	SS-WHR-50	Box of 50	6.65	1
Damper Joiners	SS-DJ-50	Box of 50	5.00	1
Connecting Tube Hangers	SS-WHS-50	Box of 50	8.00	3

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

*For comparative and estimating purposes only.

Note #1: Joining pieces are not included with 3 ft. sections.

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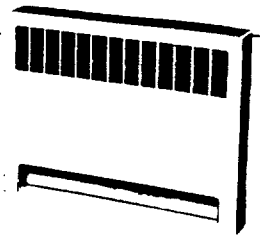

MULTIFIN CONVECTORS

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	$29.08	620–20	14.9	21	$32.29	. . .	. . . .	. . . .	. . .	. . . .	. . . .	. . . .	. . . .
24	424–20	13 0	20	30.88	624–20	18.4	24	34.87	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
28	. . .	. . . .	. . . .	. . . .	628–20	22 0	27	37.53	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
32	. . .	. .	. . . .	. . . .	632–20	25 5	29	40.19	832–20	31.7	33	$44.79	. . . .	. . . .	. . . .	. . . .
36	. . . .	. .	. .	. . .	636–20	29 0	33	40.80	836–20	36 0	37	47.99	1036–20	45.5	42	$55.10
40	. . .	. .	. .	. . . .	640–20	32 5	34	45.39	840–20	40 4	39	51.25	1040–20	51 2	48	59.30
44	. . . .	. . . .	. . . .	. . . .	644–20	36 1	37	48.05	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. .
48	. .	.	. .	. . . .	648–20	39 6	40	50.71	848–20	49 2	46	57.84	1048–20	62.3	52	67.62
56	. . . .	. . . .	.	. .	656–20	46 7	45	55.98	856–20	58.0	51	64.42	1056–20	73 4	58	75.87
64	. .	.		. .	664–20	53 8	52	61.30	864–20	66 9	59	71.02	1064–20	84 5	64	84.12
24" cabinet height																
20	420–24	12 1	20	$30.22	620–24	17 2	23	$34.01	. . .	. . . .	. . . .	. . .	. . . .	. . .	. . . .	. .
24	424–24	14.9	22	32.29	624–24	21 2	26	36.94	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
28	428–24	17 8	25	34.41	628–24	25 4	30	40.06	. . . .	. . . .	. . . .	. .	. . . .	. . . .	. . . .	. .
32	. .	. .	.	. . . .	632–24	29 5	33	43.20	832–24	35 6	38	$47.72	. . . .	. . . .	. . . .	. . . .
36	. . .	. . .	. .	. . . .	636–24	33 5	35	46.12	836–24	40.5	40	51.38	1036–24	49 0	45	$57.71
40	. .	. . .	. . . .	. . . .	640–24	37.6	38	49.19	840–24	45.5	44	55.10	1040–24	55 2	52	62.29
44	. . . .	. . . .	. . . .	. . . .	644–24	41.7	42	52.25	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. .
48	. . .	. . .	. . . .	. . . .	648–24	45.7	44	55.24	848–24	55.4	50	62.43	1048–24	67.1	62	74.51
56	. . .	. .	. . . .	. . . .	656–24	53 9	50	61.36	856–24	65.2	55	69.74	1056–24	79 0	64	80.07
64	. .		. . .	. .	664–24	62.2	57	67.55	864–24	75 3	63	77.28	1064–24	91.0	71	88.98
32" cabinet height																
20	. . . .	. . . .	. . . .	. . . .	620–32	18.7	29	$35.08	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
24	. . . .	. . . .	. . . .	. . . .	624–32	23.1	32	38.40	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
28	. . . .	. . . .	. . . .	. . . .	628–32	27.7	36	41.79	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
32	. . . .	. . . .	. . . .	. . . .	632–32	32.1	40	45.12	832–32	40 9	45	$51.65	. . . .	. . . .	. . . .	. . .
36	. . .	. . . .	. . . .	. . . .	636–32	36.5	43	48.39	836–32	46.5	48	55.85	1036–32	55.0	54	$62.16
40	. . .	. .	. . . .	. . . .	640–32	41.0	48	51.71	840–32	52.2	56	60.10	1040–32	61.9	59	67.29
44	. . . .	. . . .	. . . .	. . . .	644–32	45.4	56	54.97	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	
48	. . .	. .	. . . .	. . . .	648–32	49 8	58	58.30	848–32	63 6	65	68.55	1048–32	75 3	69	77.28
56	.	. . .	. . . .	. . . .	656–32	58.7	67	64.89	856–32	74.9	73	77.00	1056–32	88.7	76	87.25
64	. . .	. .	.	. . . .	664–32	67.8	71	71.68	864–32	86.5	76	85.66	1064–32	102 2	84	97.37

Plugs and bushings are not regularly furnished with Multifin Convectors, but are available for separate sale.
¾" 1" 1¼" 1½" Trade Price Each $.36

Note: For stock model cabinet extras, see page 41.

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

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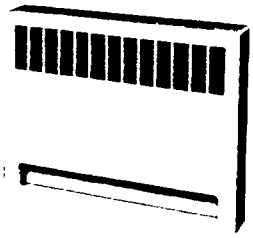
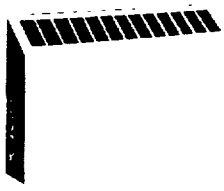
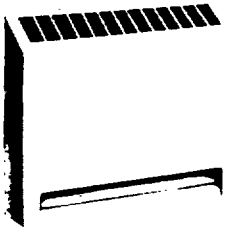
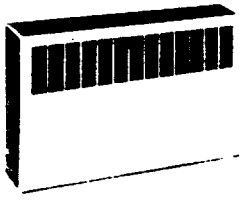
▼ See page 48

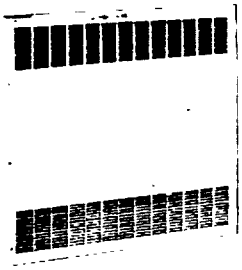
For complete specifications refer to Technical Catalog Bulletin Form No 162-2 (Rev 6 10.69)

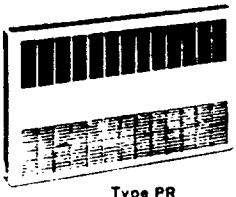












Type PR
(Type PRGB shown)

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	$ .75	$21.18
Special Service			
F	Floor Type–free standing	$ .89	$25.66
FG	Floor Type–free standing–inlet grille	.89	29.49
W	Wall Hung–flat top	.89	25.66
FS	Free Standing–sloping top	.84	27.07
FSG	Free Standing–sloping top–inlet grille	.84	30.90
S	Wall Hung–sloping top	.84	24.39
FR	Fully recessed–$\frac{1}{16}$" beveled edges	.91	27.07
FRG	Fully recessed–$\frac{1}{16}$" beveled edges–inlet grille	.91	30.90
FRGB	Fully recessed–$\frac{1}{16}$" beveled edges–inlet grille with bottom overlap and liner bottom	.91	34.02
PR	Partially recessed–1½", 2½", 3", 5" flanged edges	.94	31.33
PRG	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille	.94	35.01
PRGB	Partially recessed–1½", 2½", 3", 5" flanged edges–inlet grille–with bottom overlap and liner bottom	.94	44.94

Price shown for estimating purposes only. For expanded prices, see page 43. For cabinet extras, see page 41.

Note: For cabinet extras, see page 41.

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 38.
Multifin cabinets (less element) – 1½ pounds.
Multifin cabinets (with element):
Types F, FR, PR – 1²₃ 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.

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MULTIFIN CONVECTORS — continued

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

	No. 4 depth			No. 6 depth			No. 8 depth			No. 10 depth		
convector length inches	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	$16.78	620	13	$20.57	820	15	$24.30	1020	21	$27.95
24	424	10	18.17	624	16	22.57	824	19	28.08	1024	26	32.42
28	428	12	19.57	628	19	24.56	828	23	30.09	1028	31	36.15
32	432	14	21.03	632	22	26.29	832	27	32.75	1032	36	39.67
36	436	16	22.84	636	25	28.29	836	31	35.67	1036	41	43.79
40	440	18	24.56	640	28	30.69	840	35	38.20	1040	46	47.26
44	444	20	26.22	644	31	32.75	844	39	41.06	1044	51	50.58
48	448	22	27.75	648	34	35.00	848	43	43.73	1048	56	53.77
56	456	26	30.88	656	40	39.00	856	51	48.85	1056	66	59.90
64	464	30	34.14	664	46	43.46	864	59	54.11	1064	76	67.22

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, front discharge grille, and open bottom inlet, in heights, lengths and depths to accommodate convectors as currently catalogued.

MINIMUM CABINET HEIGHTS WITH DAMPERS FOR MULTIFIN

Type cabinet	Multifin
F, FG	20" For all depths
W	20" For all depths
FS, FSG	20" For all depths
S	20" For all depths
FR, FRG, FRGB	20" For all depths
PR, PRG, PRGB	20" For all depths

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

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▼ See page 48

For complete specifications refer to Technical Catalog Bulletin Form No. [illegible] Rev. 6-10-69

CABINET EXTRAS FOR MULTIFIN

CABINET EXTRAS—STOCK MODEL MULTIFIN ONLY

ITEM	DESCRIPTION	▼ Trade Price
DAMPER	Knob Operated Damper Package ..... each	$ 7.33
METAL TRIM STRIPS	**For recessing stock models only**	
	20" to 36" long ..... each	12.58
	40" to 64" long ..... each	16.10
GRILLE	Snap-on Inlet Grille for Stock Models Only ..... each	5.59
*AIR VENT	Air chamber with extended tube, manual vent ..... each	7.13
	Air chamber with Dole No. 20JR auto-vent ..... each	7.13

*Note: Items also available for special service Multifin.

SPECIAL SERVICE CABINET EXTRAS—MULTIFIN

(Prices indicated are for standard catalogued sizes only)

ITEM	DESCRIPTION	▼ Trade Price
DAMPER	Knob or Institutional Type ..... each	$ 8.72
ACCESS DOOR	**In standard locations 1, 2, 3, 4, 7 or 8 as shown in current literature.**	
	Hinged type with Slotted Head operator ..... each	8.72
	Hinged type with Allen Head operator ..... each	10.38
	Note: Access doors in other than standard locations	Price on application
TAMPER PROOF SCREWS	Phillips or Allen Head screws (other than standard Slotted Head) per cabinet	1.41
CAM LOCKS	Allen Head Cam Locks (Allen Keys Not Furnished):	
	Types F, FG, FS and FSG ..... per cabinet	7.18
	Types S and W (Multifin Only) ..... per cabinet	7.18
	Types FR, FRG, FRGB, PR, PRG, PRGB { Up to 48" ..... per cabinet	31.68
	{ Over 48" ..... per cabinet	39.67
	Note: Additional charge per order $6.29	
INSULATION	½" Celotex or Fibreglas on outside of cabinet	
	Back only ..... per cabinet	14.77
	Back, ends and top ..... per cabinet	18.24
	½" Millboard on outside of cabinet	
	Back only ..... per cabinet	34.61
	Back, ends and top ..... per cabinet	49.19
SOUND DEADENING MATERIAL	Approx. ⅛" thick—inside front panel only ..... per cabinet	14.64
SEALING STRIP	**For standard length FR, FRG and FRGB cabinets only**	
	(¼" x ⅜" Polyurethane) ..... per cabinet	6.13
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	2.07
METAL TRIM STRIPS	**For recessing Types F and FG Multifin convectors only**	
	Cataloged heights and lengths up to 36" ..... each	14.11
	Cataloged heights and lengths 40" to 64" ..... each	17.38
END POCKETS	**Specify right or left hand side**	
	4" end pocket with No. 18 gauge vertical baffle ..... per end pocket	7.85
	8" end pocket with No. 18 gauge vertical baffle ..... per end pocket	12.58
KNOCKOUTS	Are optional—Furnished only on request	Price on application
HEAVIER GAUGE CABINETS	Trade Price per square foot of cabinet output	

	Front Only	Liners Only
No. 18 gauge	—	$.10
No. 16 gauge	$.10	.12
No. 14 gauge	.19	—

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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.

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.

BUILT-IN TANKLESS WATER HEATERS for G-2 Water, G-40, G-10, V-3, V-3M, FR-A-5, A-5, DPT, PFA-3, PFA-5, and VPT

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 liming conditions exist 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.

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

BOILERS: For current price, contact your American Standard distributor

Refer to Boiler Repair Parts Catalog Form 9100-2 & Revisions for Current Repair Parts

Obsolete and Discontinued Boiler Repairs are available thru:

H. C. Oswald Co.
120 E. 124th St.
N.Y.C., N.Y. 10035

OIL BURNERS:

Refer to "American Standard Oil Burner Repair Parts Catalog" 73197-2 dated July, 1974

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AMERICAN STANDARD

P O BOX 2003, NEW BRUNSWICK, N J 08903

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 $25.00 net will be billed at $25.00.

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 WH 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, at its option, it will furnish by freight a replacement for, or repair, or refund the purchase price paid by its distributor or other direct buyer, for 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 In no case will American-Standard be responsible for any special, direct, indirect, or consequential damages nor for labor or transportation expenses relating to such replacement or repair, nor will it be held responsible for warranty adjustments costing more than the price of the product to its distributors and other Direct Buyers.

There is no other warranty, express or implied, including no implied warranty of merchantability or implied warranty for fitness for a particular purpose.

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 for such goods.

Since local code requirements vary greatly throughout the country, users of heating products should consult in advance with licensed contractors to determine whether there are any code restrictions on the use of a specific product American-Standard makes no representation nor warranty regarding, and shall not be responsible for, any code compliance

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, W. H. Plumbing Heating, American-Standard, Box 2003, New Brunswick New Jersey 08903

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 20% or $20, 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 Buyers' convenience only, and are not guaranteed.

AMERICAN STANDARD Inc.