COMMERCIAL ATMOSPHERIC, GAS-FIRED HYDRONIC HEAT, HOT WATER OR STEAM

BURNHAM COMMERCIAL
AMERICA'S BOILER COMPANY®

SERIES 5B

member gama

Heating Capacities
320 to 1560 MBH Output

BURNHAM GAS FIRED HOT WATER OR STEAM BOILER

MAXIMUM WORKING PRESSURE: 50 PSI WATER; 15 PSI STEAM

Heating you can count on year after year.

The Burnham® Series 5B boiler offers the capacities and features that make it ideal for commercial, institutional and high rise residential heating applications. The rear outlet drafthood is specifically suited to installations involving low ceiling heights.

Burnham's 5B boiler is rated at 50 PSI water or 15 PSI steam and has a combustion efficiency of 80%, meeting the requirements of ASHRAE 90.1.

Cast Iron Dependability

Burnham's Series 5B boiler is constructed with durable cast iron sections. Cast iron has the unique ability to absorb and transfer heat quickly and efficiently while providing unmatched durability. The pinned heating surface and vertical flue design extracts maximum heat while maintaining low draft losses. This results in higher efficiencies and lower fuel costs. Their compact design makes the sections easier to handle and assemble, allowing an easier fit through narrow doorways.

All Burnham boilers are designed for long term reliability and trouble-free performance. In fact, a Burnham boiler can last 25 to 30 years with only routine service and maintenance

Burnham's Cast Iron Nipple Difference

Burnham's Series 5 boiler sections are joined with quality cast iron nipples that last the life of the boiler. They expand and contract along with the sections they join ensuring the integrity of the entire section assembly. Unlike the gaskets commonly used in some competitors' boiler assemblies, cast iron nipples resist petroleum based chemicals, including corrosion inhibitors, pump lubricants and antifreeze, and they do not break down from contact with boiler flue gases.

Commitment to quality

Burnham has over 130 years experience producing residential and commercial boilers, including the castings produced in our own foundry. Our continuing commitment to quality and excellence has made us America's Boiler Company®.

TANKLESS HEATER DATA

Water Boilers Only

Piping to heater(s) should run at side(s) or rear of boiler. Piping at rear of boiler should not interfere with removal of upper rear panel(s) for access to flueways for cleaning. Piping to accomodate two heaters must be proportionally sized in both cold and hot water supply headers to match heater ratings necessary for maximum hot water delivery at minimum pressure drop.

Heater Number	For use in boilers:	Continuous Draw Heater Ratings 40°-140° Rise w/200°F Boiler Temp	Pressure Drop through Heater	Clearance Requirement for Heater Removal
AT - 2	all sizes	M 4-1/2 GP	8.8IPS	27"
AT - 3	all sizes	M 5 GP	18.0 PS	32"
AT - 4	5008 and larger	M 6 GP	1.2 P$	42"

All Series 5B boilers are furnished with left and right heater end sections. It is possible to install a heater in both ends provided the number of sections in the boiler is not less than the sum of the number of sections required for each heater as indicated below.

Example: AT-3 + AT-4 heater=6+8=14 sections or larger boiler required.
AT-2 Heater—5 Sections
AT-3 Heater—6 Sections
AT-4 Heater—8 Sections

Hot Water Supply Boiler Capacity

Boiler No. Heater No.	5006B AT - 3		5007B AT - 3		5008B AT - 4		5009B AT - 4		5010B AT - 4		5011B AT - 2 & AT - 3		5012B (2) AT - 3		5013B (2) AT - 3		5014B (2) AT - 3		5015B (2) AT - 3		5026B (2) AT - 4	
	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P	GPH	Δ P
60°F Rise	500	40	500	40	600	12	600	12	600	12	950	37.5	1000	41	1000	41	1100	47.5	1100	47.5	1200	11
80°F Rise	375	26	375	26	450	3.2	450	3.2	450	3.2	713	24.5	750	26	750	26	826	30	826	30	900	3.2
100°F Rise	300	18	300	18	360	1.2	360	1.2	360	1.2	570	16.5	600	18	600	18	660	21	660	21	720	1.2

* Recommended only for use in indirect hot water supply systems (with tankless heater installed in boiler on water boilers only; external heat exchanger; steam to water or water to steam submerged in storage tank).
Ratings for hot water supply are based on the gross output of the boiler.

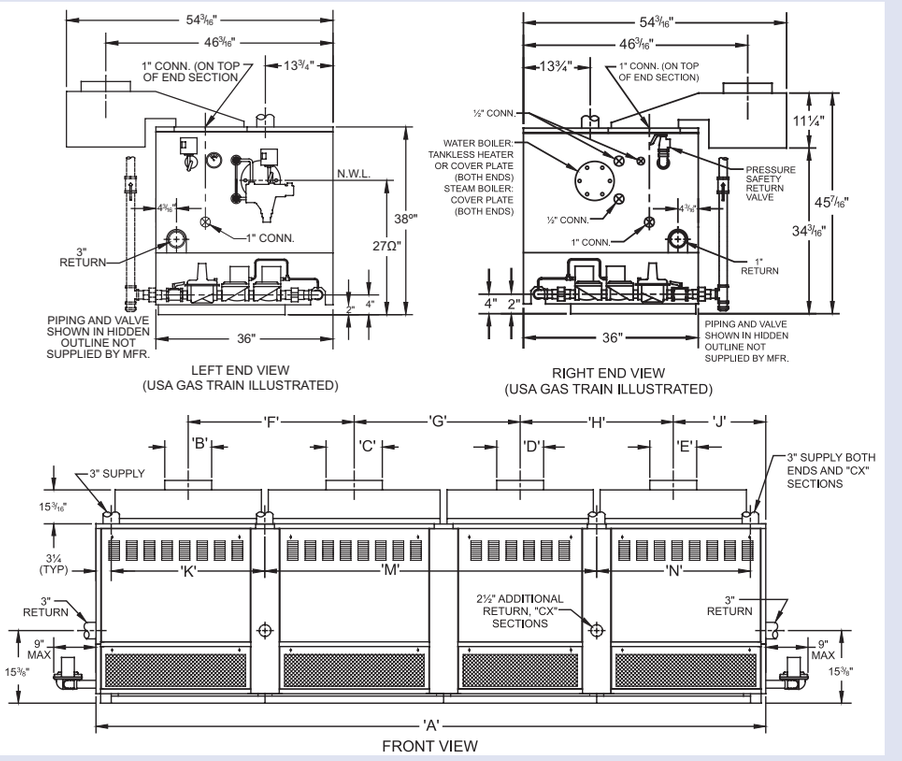
DIMENSION (IN INCHES)

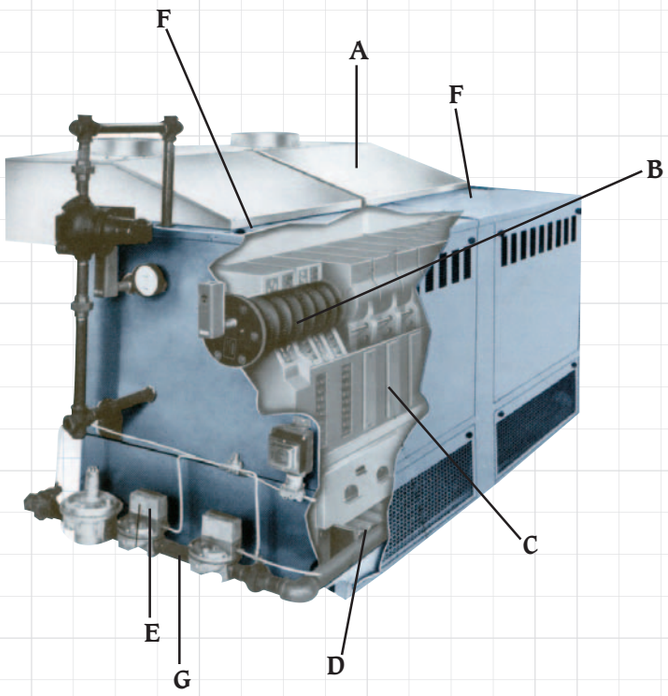
Boiler Size	Jacket Overall Length "A"	Drafthood Height, Size and Location								Top Supply and Rear Return Location			Supply Conn. Qty. & Size (Inches)***	Return Conn. Qty. & Size (Inches)***	Gas Conn. Size Natural & Propane
		B Dia.	F	C Dia.	G	D Dia.	H	E Dia.	J	K	M	N			
5006B	34	9	—	—	—	—	—	—	17	19-3/4	—	—	(2) 3	(2) 3	1
5007B	39-3/8	10	—	—	—	—	—	—	19-3/4	32-1/4	—	—	(2) 3	(2) 3	1
5008B	44-3/4	12	—	—	—	—	—	—	22-3/8	38-3/8	—	—	(2) 3	(2) 3	1
5009B	50-1/4	12	—	—	—	—	—	—	25-1/8	43-3/4	—	—	(2) 3	(2) 3	1-1/4*
5010B	55-3/4	12	—	—	—	—	—	—	27-7/8	49-1/4	—	—	(2) 3	(2) 3	1-1/4
5011B	61-1/8	9	27-1/4	9	—	—	—	—	17	54-3/4	—	—	(2) 3	(2) 3	1-1/4
5012B	66-1/2	9	29-7/8	10	—	—	—	—	19-3/4	60-1/8	—	—	(2) 3	(2) 3	1-1/4
5013B	82	10	32-5/8	10	—	—	—	—	19-3/4	65-1/2	—	—	(2) 3	(2) 3	1-1/4
5014B	77-1/2	10	35-3/8	12	—	—	—	—	22-3/8	71	—	—	(2) 3	(2) 3	1-1/4
5015B	82-7/8	12	38	12	—	—	—	—	22-3/8	38-1/4	38-1/4	—	(3) 3	(2) 3, (1) 2-1/	*(2) 1
5016B	88-1/4	12	40-3/4	12	—	—	—	—	25-1/8	38-1/4	43-5/8	—	(3) 3	(2) 3, (1) 2-1/	(1) 1, 1-1-1/4
5017B	93-3/4	12	43-1/2	12	—	—	—	—	25-1/8	43-5/8	43-5/8	—	(3) 3	(2) 3, (1) 2-1/	(2)1-1/4
5018B	99-1/4	12	46-1/4	12	—	—	—	—	27-7/8	43-5/8	49-1/8	—	(3) 3	(2) 3, (1) 2-1/	(2) 1-1/4
5019B	104-5/8	12	49	12	—	—	—	—	27-7/8	49-1/8	49-1/8	—	(3)3	(2) 3, (1) 2-1/	(2) 1-1/4
5020B	110	9	27-1/4	9	38	12	—	—	27-7/8	54-1/2	49-1/8	—	(3) 3	(2) 3, (1) 2-1/	(2) 1-1/4
5021B	115-1/2	9	29-7/8	10	40-3/4	12	—	—	27-7/8	27-3/8	32-5/8	49-1/8	(4) 3	(2) 3, (2) 2-1/	(2) 1-1/4
5022B	121	10	32-5/8	10	40-3/4	12	—	—	27-7/8	32-3/4	32-5/8	49-1/8	(4) 3	(2) 3, (2) 2-1/	(2) 1-1/4
5024B	131-3/4	9	29-7/8	10	32-5/8	10	32-5/8	10	19-3/4	27-3/8	65-1/4	32-3/4	(5) 3	(2) 3, (2) 2-1/	(2) 1-1/4
5026B	142-3/4	10	35-5/8	12	35-3/8	10	32-5/8	10	19-3/4	32-3/4	70-3/4	32-3/4	(5) 3	(2) 3, (2) 2-1/	(2) 1-1/4

*Dual manifolds—5015 thru 5026 **1"—USA-E1 ***For actual # of tappings used, see recommended water piping, page 5

Note:

1. 5006B thru 5014B: Boilers require single gas train. Location on left end of boiler is standard. Gas train may be relocated to right end of boiler except 5012B and 5014B boilers.
2. 5015B thru 5026B: Boilers require dual gas trains.
3. Not for installation on combustible flooring.





A. Rear outlet drafthood designed specifically for installations involving low ceilings.

B. Provision is made for high performance tankless water heater in hot water units.

C. Flue plates on both front and rear for inspection and maintenance.

D. Stainless steel burners assure long life and resist rust–unlike aluminized burners.

E. Gas controls meet full requirements of ANSI 221.13.

F. Supply tappings at top for ease of system connection.

G. Single gas train on K5006 thru K5014, may be installed on either side of boiler. K5015 and above have two gas trains, one on each side of boiler.)

Standard Equipment

All Boilers - Sections unassembled including left and right heater ends; heater opening cover plates; base-burner manifold assembly: one assembly 5006B thru 5014B, two sub-assemblies 5015B thru 5026B; on-off firing gas control assembly; deluxe insulated jacket; rear outlet drafthood.

Water Trim - 50 PSI safety relief valve, pressure temperature gauge, L4006A high limit control, #64 LWCO.

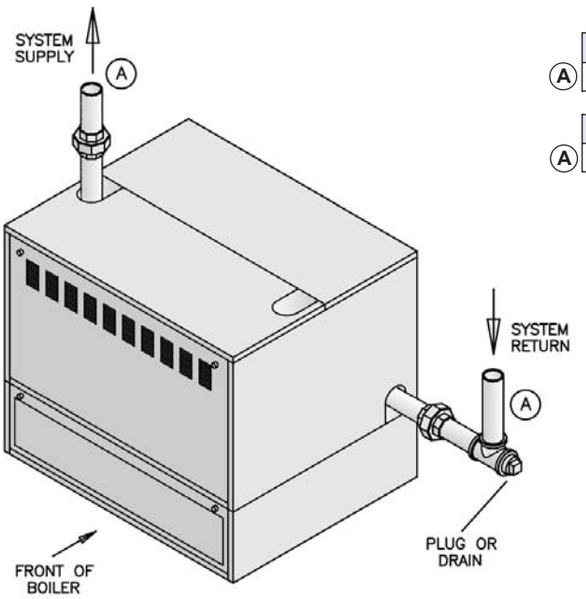
Steam Trim - 15 PSI safety valve, steam gauge, gauge glass set, L404A high limit control, #67 BC2 LWCO.

USA Boilers - **EI**- Electronic control set: one set-5006B thru 5014B, two sets-5015B thru 5026B; provides electronic ignition; 100% safety shutoff; electronic supervision of pilot and intermittent pilot operation. Set includes: G775RHA-1 ignition control; J991LYW pilot with Y75AA-3 sensing probe, gas train for 5006-5009 is Robertshaw 7000 DERHC combination gas valve; gas train for 5010 -5026 consists of dual V88A gas valves, J991LYW pilot; RV12 pilot regulator, pilot shutoff valve, main gas pressure regulator; 24V transformer furnished with all valve sets.

Canadian Boilers - Lubricated plug cock RV-12 pilot line regulator. Natural Gas: Thermocouple pilot assembly, 100% shut-off; one set- 5006B thru 5014B, two sets-5015B thru 5024B; EO electronic control set on 5014B (one set) and 5026B (two sets) only; LP gas: EO electronic control set: one set-5007B thru 5014B, two sets-5015B thru 5026B.

Optional Equipment - Assembled sections; Firing sequences: low-high-off, low-high-low and full modulation all with a motorized and solenoid gas valve, low-high-low is also available with a combination diaphragm gas valve/regulator; Electronic control sets: EO-manual ignition, continuoius pilot flame, protecto-relay; EOP-like EO plus prewired control panel with indication lights for power on, gas valve on, flame failure; EE-electronic ignition, intermittent pilot operation, protecto-relay; EEP-like EE plus prewired control panel with indicator lights for power on, gas valve on, flame failure. Industrial Risk Insurers (IRI) and Factory Mutual components.

RECOMMENDED BOILER PIPING
WATER

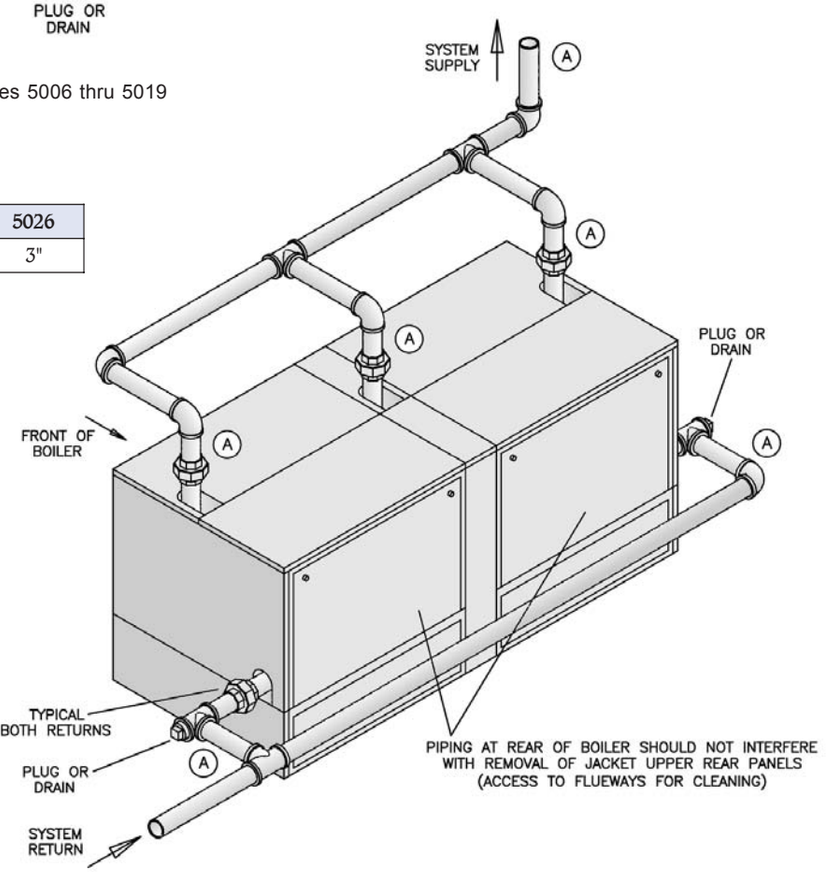


	5006	5007	5008	5009	5010	5011	5012
A	1-1/2"	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"

	5013	5014	5015	5016	5017	5018	5019
A	2-1/2"	3"	3"	3"	3"	3"	3"

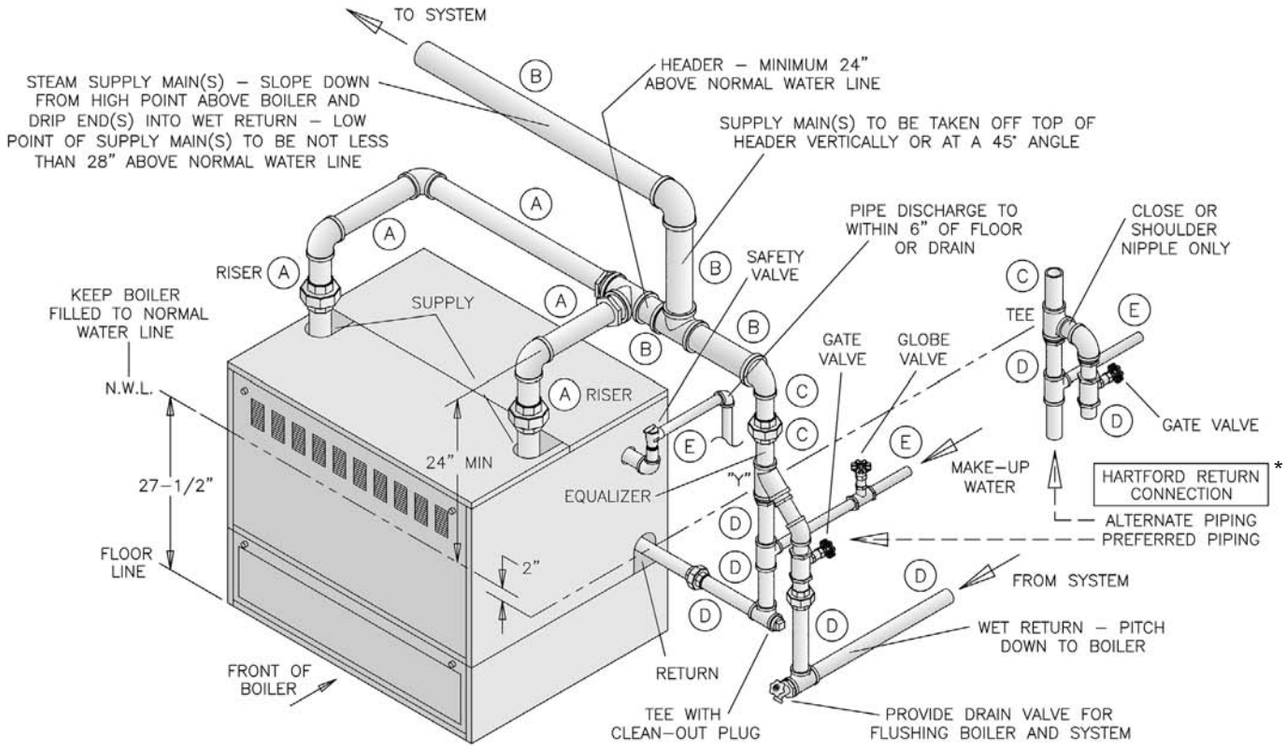
* 1 supply connection & 1 return connection sizes 5006 thru 5019

	5020	5021	5022	5024	5026
A	3"	3"	3"	3"	3"



* 3 supply connections & 2 return connections sizes 5020 thru 5026

RECOMMENDED BOILER PIPING
STEAM—GRAVITY RETURN



1 or 2 Supply Connections - 5006 thru 5014

* Required on gravity return systems

	5006	5007	5008	5009	5010	5011	5012	5013	5014
(A)	3"	3"	3"	3"	3"	3"	3"	3"	3"
(B)	3"	3"	4"	4"	4"	4"	5"	5"	5"
(C)	2"	2"	2"	2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
(D)	1-1/2"	1-1/2"	1-1/2"	1-1/2"	2"	2"	2"	2"	2"
(E)	3/4"	3/4"	3/4"	3/4"	1"	1'"	1"	1-1/4"	1-1/4"

Second supply riser optional on 5006 and 5007

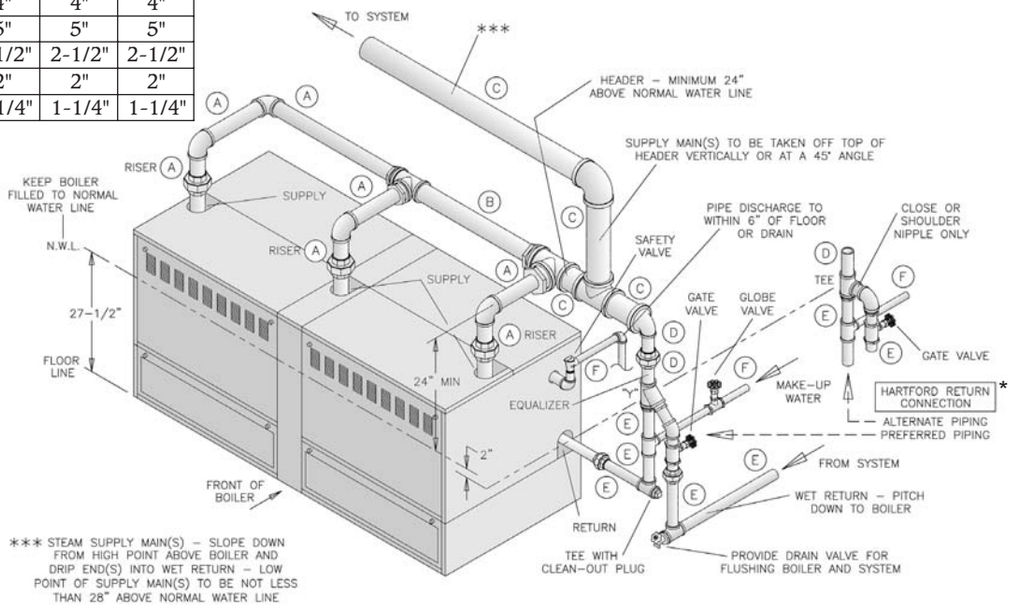
RECOMMENDED BOILER PIPING
STEAM—GRAVITY RETURN

BURNHAM COMMERCIAL
AMERICA'S BOILER COMPANY®

	5015	5016	5017	5018	5019	5020
(A)	3"	3"	3"	3"	3"	3"
(B)	4"	4"	4"	4"	4"	4"
(C)	5"	5"	5"	5"	5"	5"
(D)	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
(E)	2"	2"	2"	2"	2"	2"
(F)	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"

3 supply connections
boiler sizes 5015 tru 5020

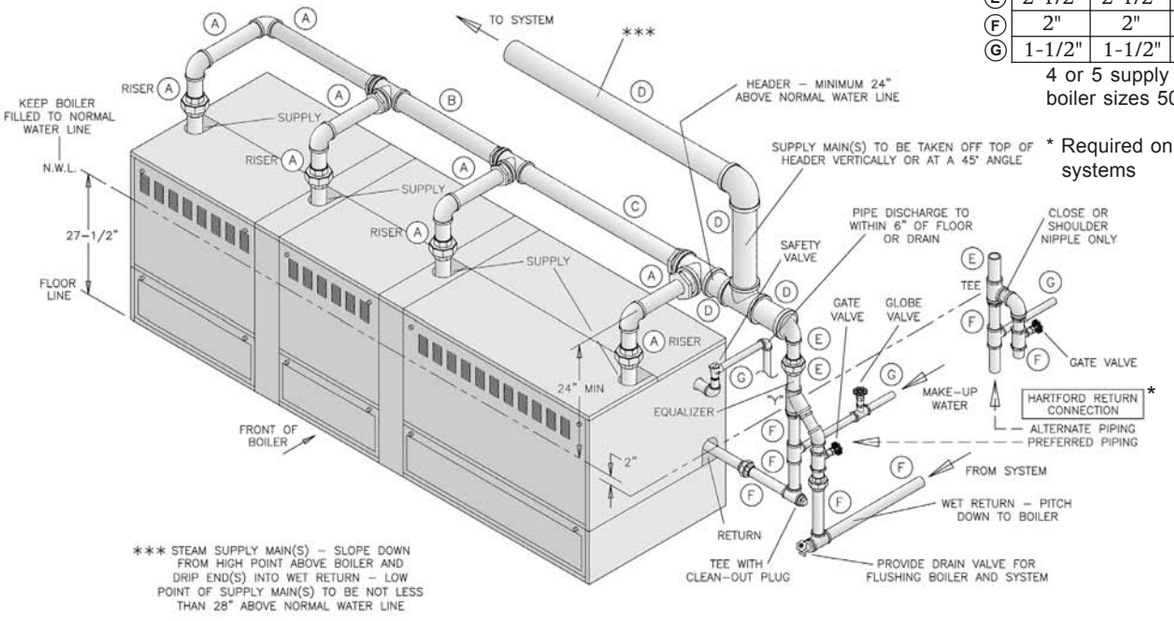
* Required on gravity return systems



	5021	5022	5024	5026
(A)	3"	3"	3"	3"
(B)	4"	4"	4"	4"
(C)	5"	5"	5"	5"
(D)	6"	6"	6"	6"
(E)	2-1/2"	2-1/2"	2-1/2"	3"
(F)	2"	2"	2"	2-1/2"
(G)	1-1/2"	1-1/2"	1-1/2"	1-1/2"

4 or 5 supply connections
boiler sizes 5021 tru 5026

* Required on gravity return systems



SPECIFICATIONS

BURNHAM COMMERCIAL
AMERICA'S BOILER COMPANY®

SERIES 5B RATINGS

Boiler Number (1)	Ratings MBH (2) (3)		Net Ratings (4) (5)			USA Boiler H.P.	No. & Size of Flue Outlets	Breeching Diameter (inches)	Recommended Chimney Sizes (6)		Approx. Shipping Weight (lbs.)
	Input	Gross Output	Water	Steam					Round Dia. In x Ft.	Rectangular In. x In. x Ft.	
			I=B=R MBH	I=B=R Sq. Ft.	I=B=R MBH						
K-5006B	401	320.8	279	1004	241	9.58	(1) 9"	9	10 x 15	12 x 12 x 15	1160
K-5007B	468	374.4	326	1171	281	11.04	(1) 10"	10	10 x 15	12 x 12 x 15	1340
K-5008B	546	436.8	380	1367	328	12.88	(1) 12"	12	12 x 15	12 x 16 x 15	1525
K-5009B	624	499.2	434	1558	374	14.73	(1) 12"	12	12 x 15	12 x 16 x 15	1720
K-5010B	702	561.6	488	1754	421	16.57	(1) 12"	12	12 x 15	12 x 16 x 15	1895
K-5011B	780	624.0	543	1950	468	18.41	(2) 9"	14	15 x 15	16 x 16 x 15	2085
K-5012B	858	686.4	597	2146	515	20.25	(1) 9", (1) 10"	14	15 x 15	16 x 16 x 15	2280
K-5013B	936	748.8	651	2343	562	22.09	(2) 10"	14	15 x 15	16 x 16 x 15	2460
K-5014B	1014	811.2	705	2538	609	23.93	(1) 10", (1) 12"	14	15 x 20	16 x 16 x 20	2640
K-5015B	1092	873.6	760	2729	655	25.77	(2) 12"	14	15 x 20	16 x 16 x 20	2870
K-5016B	1170	936.0	814	2925	702	27.61	(2) 12"	14	15 x 20	16 x 16 x 20	3070
K-5017B	1248	998.4	868	3121	749	29.45	(2) 12"	14	15 x 20	16 x 16 x 20	3265
K-5018B	1326	1060.8	922	3317	796	31.29	(2) 12"	16	15 x 20	16 x 16 x 20	3445
K-5019B	1404	1123.2	977	3513	843	33.13	(2) 12"	16	18 x 20	16 x 20 x 20	3620
K-5020B	1482	1185.6	1031	3704	889	34.97	(2) 9", (1) 12"	16	18 x 20	16 x 20 x 20	3810
K-5021B	1560	1248.0	1085	3900	936	36.82	(1) 9", (1) 10", (1) 12"	16	18 x 20	16 x 20 x 20	4005
K-5022B	1638	1310.4	1139	4113	987	38.66	(2) 10", (1) 12"	16	18 x 20	16 x 16 x 20	4185
K-5024B	1794	1435.2	1248	4546	1091	42.34	(1) 9", (3) 10"	18	18 x 20	20 x 20 x 20	4530
K-5026B	1950	1560.0	1357	4975	1194	46.02	(3) 10", (1) 12"	18	18 x 20	20 x 20 x 20	4895

(1) Boiler Number—use following suffixes: USA-WNEI-Water Natural Gas; WPEI—Water LP Gas (5006B thru 5009B only); WPEO—Water LP Gas (5010B thru 5026B); SNEI—Steam Natural Gas, SPEI—Steam LP Gas (5006B thru 5009B), SPEO—Steam LP Gas (5010B thru 5026B). Canada—WN—Water Natural Gas; WP—Water LP Gas; SN—Steam Natural Gas; SP—Steam LP Gas. (All Series 5B boiler models reach a combustion efficiency of 80%.)

(2) For installations from sea level to 2000 ft. For altitudes above 2000 ft.: USA—Reduce ratings 4% for each 1000 ft. above sea level. Canada—certified for use at altitudes to 4500 ft. above sea level. Each installation, however, must be authorized by local authorities.

(3) LP gas ratings reduced 6-1/4% from natural gas ratings.

(4) Net I=B=R ratings shown are based on normal I=B=R piping and pick-up factor. Water: 1.15 (all sizes) Steam:1.333 (5006 thru 5021), 1.329 (5022),1.317 (5024), 1.307 (5026).

(5) Net ratings are U. S. A. only.

(6) Recommended Chimneys—Based on year-round use with 6ft. breechings and no more than one elbow. Chimney height measured from installation floor line to chimney top. Flue size based on normal size of unlined chimney. Flue lined with largest flue liner which will fit within these dimensions is constructed to have the same effective flue area. Individual vents—If boiler is equipped with individual vertical vent riser(s) of same size as flue outlet(s) on draft divert(s), these vent(s) should not be less than 5 ft. in height as measured from top of drafthood. For other chimney and breeching combinations, consult the manufacturer.

Working Pressure-50 PSI Water, 15 PSI Steam
Gas Supply Pressure, In W.C.–Natural Gas: Maximum: 14" W.C.
Minimum: 5.5" W.C. (5009, 5011 thru 5014 and 5020 thru 5026)
Minimum: 5" W.C. (5006 thru 5008, 5010 and 5015 thru 5019)
LP Gas: Maximum: 14" W.C. Minimum: 11" W.C.

Not for installation on combustible flooring.

BURNHAM COMMERCIAL
AMERICA'S BOILER COMPANY®

Form No.PL81401131000-12/03-3Mc
Printed in the U.S.A.

Phone: 717-481-8400
www.burnhamcommercial.com