

# **BURNHAM**<sup>®</sup>

## Commercial Boilers

**HIGH  
EFFICIENCY**

HEAVY  
CONSTRUCTION

DURABLE

20 – 200 BHP

ASME SECTION IV

ECONOMICAL



# C Series

## COMPACT PACKAGE BOILER

# C Series COMPACT PACKAGE BOILER

## *America's Boiler Company*

The Burnham Commercial C Series compact packaged boiler was designed with extensive manufacturing experience and is sold and serviced through the largest and most experienced network of sales representatives in the country. With a complete commercial product offering an unmatched sales and technical support, it's no wonder why Burnham Commercial is America's Boiler Company!

## *Packaged Boilers That Can Actually Fit Through A Door!*

The C Series Firetube boiler is fully packaged and designed to provide maximum cost and energy efficiency. The C Series boiler fits through any standard 36" x 80" doorway, up to 100HP. It eliminates the need for any costly building alterations or difficult site assemblies. This convenient size allows for easier and less expensive retrofit or upgrade of an existing boiler room.

A forced-draft unit, the C Series avoids the expense of a tall stack and is much more economical to operate and install than atmospheric-fired boilers. The forced draft creates a more controlled combustion, and a more thorough mixture of fuel and air is achieved resulting in optimum efficiency.

Other design features help maintain this durability and economy over the years. While the original efficiency of some other boilers can decrease when outer wrappers develop air leaks and tubes cannot be cleaned thoroughly, the C Series overcomes these problems. Built to ASME standards, its outer shell of heavy welded steel boilerplate and extra heavy tube sheets assure the continued airtight conditions necessary for efficient combustion. Its heavy construction materials and welded design assure durability and longevity that throw away designs can't offer. Opening the front flue door allows convenient access to the firetubes. By brushing out all of the firetubes, the original efficiency of the boiler is restored in a matter of minutes. All tube ends are rolled in accordance with the ASME code and are inspected for hydraulic tightness by an independent insurance inspector, prior to shipping.

These installation, operation and maintenance features add up to real savings for you. Factory testing assures you that the boiler will deliver clean, quiet and reliable heat from the day it's installed.



FRONT



REAR



# EFFICIENCIES AND FEATURES

## C Series Anticipated Efficiencies

NATURAL GAS								
Boiler HP	25%		50%		75%		100%	
	10 psig	180°F Water	10 psig	180°F Water	10 psig	180°F Water	10 psig	180°F Water
20	83.2	85.3	83.5	85.3	83.2	84.8	82.6	84.1
30	83.7	85.7	83.8	85.4	83.4	84.9	82.7	84.1
40	83.9	85.8	83.9	85.5	83.4	84.9	82.7	84.1
50	84.1	86.0	84.1	85.7	83.7	85.1	83.0	84.4
60	84.3	86.1	84.3	85.9	84.0	85.4	83.4	84.8
70	84.4	86.1	84.3	85.8	83.9	85.3	83.3	84.7
80	84.4	86.2	84.3	85.9	83.9	85.4	83.3	84.7
90	84.6	86.3	84.6	86.1	84.3	85.7	83.8	85.2
100	84.7	86.4	84.8	86.3	84.6	86.0	84.2	85.6
125	84.3	86.2	84.1	85.7	83.4	84.9	82.6	84.1
150	84.7	86.5	84.6	86.1	84.1	85.5	83.5	84.9
175	84.9	86.7	84.8	86.3	84.3	85.7	83.7	85.1
200	85.1	86.8	85.0	86.6	84.6	86.0	84.1	85.5

#2 OIL								
Boiler HP	25%		50%		75%		100%	
	10 psig	180°F Water	10 psig	180°F Water	10 psig	180°F Water	10 psig	180°F Water
20	86.0	88.2	86.2	87.9	86.0	87.5	85.4	86.9
30	86.7	88.6	86.7	88.3	86.4	87.8	85.8	87.2
40	86.8	88.7	86.8	88.3	86.4	87.9	85.9	87.3
50	87.2	89.0	87.1	88.6	86.8	88.2	86.3	87.7
60	87.4	89.2	87.4	88.9	87.1	88.6	86.7	88.1
70	87.5	89.2	87.3	88.9	87.1	88.5	86.6	88.0
80	87.5	89.3	87.4	88.9	87.1	88.5	86.7	88.0
90	87.8	89.5	87.8	89.3	87.6	89.0	87.2	88.6
100	88.0	89.7	88.0	89.6	87.9	89.3	87.6	89.0
125	87.2	89.1	87.0	88.6	86.4	87.9	85.9	87.3
150	87.8	89.6	87.6	89.2	87.2	88.7	86.7	88.2
175	88.0	89.8	87.9	89.4	87.4	88.9	87.0	88.4
200	88.3	89.9	88.2	89.7	87.8	89.2	87.4	88.8

### Standard Features\*

- 3-Pass firetube construction
- ASME Section IV construction
- Water-cooled side walls
- Rolled and flared tube ends
- Front and rear flue doors
- Oversized combustion chamber
- Washout openings
- Top/Vertical smokebox discharge
- Lifting lugs
- Enameled steel jacket
- Fiberglass insulation
- Structural steel base with extended skid to protect burner during shipment

### Optional Equipment\*

- Locking quadrant damper
- Combustion relief door
- Read/Horizontal smokebox discharge in lieu of top
- Stack thermometer
- Bolt-on front smokebox
- Flue brush with handle
- Beaded tubes
- Drain valve
- Fork-lift base
- Pre-piped and wired gas train
- Oversized gauges
- Steam & water trim connections

### Steam

- Gauge glass set
- Steam pressure gauge
- Operating control
- Manual-reset high limit
- Firing rate control
- Low fire hold aquastat (when required)
- Manual-reset probe-type low water cut-off
- Pump control/low water cut-off

### Water

- Manual-reset low water cut-off
- Pressure/Temperature gauge
- Operating control
- Manual-reset high limit
- Firing rate control
- Low fire hold aquastat (when required)

\*Burnham Commercial offers a wide array of optional equipment on the boiler and the burner.

Contact your local representative for options not shown here.

# C SERIES RATINGS AND DIMENSIONS

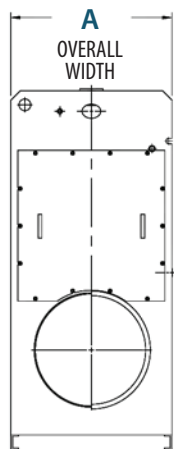
## C Series Ratings

Boiler HP	GROSS OUTPUT			NET RATING		SQ FT NET	FIRING RATE			
	A	B	C	MBH	Lbs/Hr	Water - MBH	Steam - MBH	Steam	Gas - MBH	#2 Oil - GPH
20	30	66-3/8	75-5/8	670	690	582	520	2,166	816	5.7
30	30	66-3/8	82-5/8	1,004	1,035	873	780	3,249	1,225	8.5
40	34-1/2	73-7/8	90-1/8	1,339	1,380	1,164	1,040	4,332	1,633	11.4
50	34-1/2	75-3/8	100-5/8	1,674	1,725	1,455	1,299	5,415	2,041	14.2
60	34-1/2	75-3/8	113-1/8	2,009	2,070	1,747	1,559	6,497	2,449	17.1
70	34-1/2	78-1/2	114-5/8	2,343	2,415	2,038	1,819	7,580	2,858	19.9
80	34-1/2	78-1/2	125-1/8	2,678	2,760	2,329	2,079	8,663	3,266	22.8
90	34-1/2	78-1/2	135-1/8	3,013	3,105	2,620	2,339	9,746	3,674	25.6
100	34-1/2	78-1/2	145-1/8	3,348	3,450	2,911	2,599	10,829	4,082	28.5
125	50-3/4	94-3/4	138	4,184	4,312	3,638	3,248	13,533	5,102	35.6
150	50-3/4	94-3/4	154-1/2	5,021	5,175	4,366	3,898	16,242	6,123	42.7
175	50-3/4	94-3/4	170-3/4	5,858	6,037	5,094	4,548	18,950	7,144	49.8
200	50-3/4	94-3/4	187	6,695	6,900	5,822	5,198	21,658	8,165	56.9

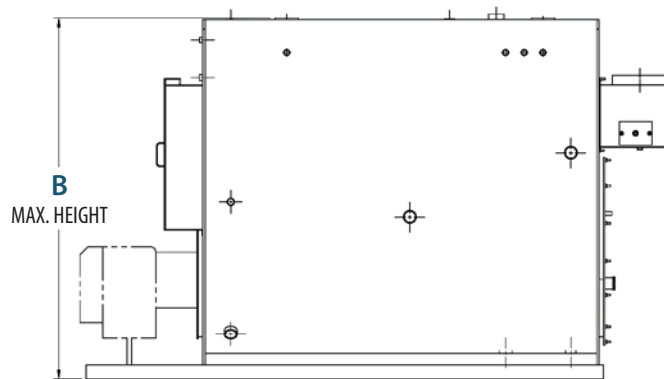
Firing rates are nominal catalog rates based on 82% efficiency firing natural gas and 84% firing #2 oil.  
Higher efficiencies can be expected as shown on page 3.

## C Series Dimensions

PAGE 4

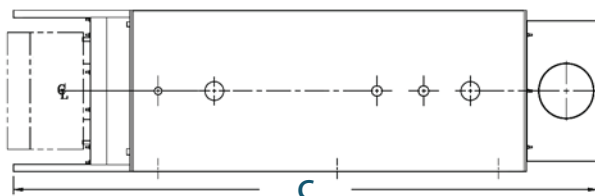


FRONT VIEW



SIDE VIEW

Specifications subject to change without notice.  
All connections are threaded unless otherwise specified.



PLAN VIEW



©2011 Burnham Commercial  
Lancaster, PA 17604  
Phone: 888.791.3790  
[www.burnhamcommercial.com](http://www.burnhamcommercial.com)

Form No. PL81465512000-8/11  
Printed in the U.S.A.