



# ThermoSteam

## Cast Iron Boilers

ThermoSteam offers a wide range of commercial cast iron boilers, available for hot water and steam heating systems fired with oil, gas or both.

ThermoSteam commercial boilers are available "factory packaged" ready for start-up, or "knocked down" for field assembly. When shipped "knocked down", all the cast iron sections and boiler components fit through a standard doorway.



ATMOSPHERIC-VENTED GAS-FIRED  
CI-300-AF: 17 sizes from 400 to 2,000 MBH



POWER-BURNER, FIRED WITH OIL, GAS OR BOTH  
CI-1900-PB: 10 sizes from 300 to 1,710 MBH



POWER-BURNER, FIRED WITH OIL, GAS OR BOTH  
CI-2800-PB: 15 sizes from 900 to 4,630

### STANDARD EQUIPMENT

#### All Boilers

- Cast iron wet-base sections rated for 80 psi (water) and 15 psi (steam)
- ASME safety relief valve
- Hi-limit manual reset control
- Operating temperature or pressure control
- Burner mounting plate with insulation block
- Insulated metal jacket, steel floor rails and flue brush

#### Water boilers

Temperature and pressure gauge

#### Steam Boilers

Steam pressure gauge

Low water cut-out with water gauge glass

### OPTIONAL EQUIPMENT

#### Steam and Water

- CSD-1, FM or IRI approved fuel trains
- Inspection tappings, return yoke and barometric damper



**ThermoSteam Systems Inc.**

604 N. Hill Street  
South Bend, IN 46617

**800-548-9643**



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## Cast Iron Boilers



### CI-300-AF Atmospheric-vented Gas-fired Boiler

The CI-300-AF Series Cast Iron Boiler is ideal for commercial hot water or steam heating systems. Its design simplicity rarely requires for routine service. Seventeen sizes are available ranging from 400 MBH up to 2,000 MBH with high efficiencies.

#### CI-300-AF Boiler Features

- Rugged cast iron heat exchanger sections
- Compact section design for ease of handling and assembly
- Flexible, high temperature hydronic seals and fiberglass flue gas rope seals reduce assembly time and require no special assembly tools
- Short, individual draw rods simplify assembly and reduce stress
- Aluminized steel or stainless steel lanced port burners
- Low profile integral aluminized steel draft hood/flue collector
- Aluminized steel insulated base
- Front cleanout access covers for ease of cleaning
- Gas control valves with simple single stage or multiple stage firing
- Standard 7" WC or low pressure 5" WC gas fuel trains
- Natural or propane gas-fired
- Standing pilot or electronic ignition pilot systems
- Continuous gas manifold capped for gas train connection at either end
- Factory packaged or knocked down for field assembly



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### CI-300-AF

### Atmospheric-vented Gas-fired Boiler

#### STANDARD EQUIPMENT

##### All Boilers

Cast iron sections with machined ports  
 Water: 80 psi MAWP  
 Steam: 15 psi M.A.WP  
 Both end sections tapped to accommodate a gauge glass and up to three low water cut-offs  
 Flexible, high temperature hydronic seals  
 Fiberglass rope seal between sections  
 Insulated aluminized steel base with aluminized steel lanced port burners  
 Stainless Steel lanced port burners for propane gas.  
 Continuous gas manifold capped for gas train connection at either end  
 Insulated metal jacket  
 Low profile, aluminized steel flue collector and draft hood  
 7" W.C. gastrainwith fittings  
 Electronic spark ignited pilot system  
 5-12 sections: (1) S8610 Ignition control & pilot  
 13-21 sections: (2) S8610 Ignition controls & pilots  
 Simple and efficient on-off operation

#### STANDARD EQUIPMENT (Continued)

##### WaterBoilers

40 psi pressure relief safety valve .  
 Theraltimeter (Temp. & Pressure gauge)  
 Hi-Limit operating temperature control  
 Manual reset, Hi-Limit temperature control

##### SteamBoilers

15 psi pressure relief safety valve  
 Pressure gauge .Hi-Limit operating pressuretrol  
 Manual reset, Hi-Limit pressuretrol  
 Gauge glass with gauge cocks and guards  
 Low water cut-off, M&M #67 float type

#### OPTIONALEQUIPMENT

Assembled Sections  
 Assembled Base  
 Tankless heaters (see page 6 for details)  
 Low limit operating temperature control for domestic water heating  
 Standing pilot ignition system  
 Low water cut-off and feeder combination controls  
 Electronic probe type low water cut-off  
 CSD-I,FM,or IRI approved gas trains  
 5" We. gas train with fittings

Model	Boiler HP	RatingsNatural& PropaneGas(2)					Water Contents (Gals.)		Working Weight (LbsJ	
		A.G.A. Input (MBH)	A.G.A. Output(2) (MBH)	I=B=RNetRatings(3)			Steam	Water	Steam	Water
				Sq.Ft.	MBH	MBH				
†CI-300*-5	9.7	400	326	1017	244.6	283.5	14	25.5	1231	1326
†CI-300*-6	12.2	500	408	1273	306.1	354.8	17.3	31.4	1452	1570
†CI-300*-7	14.6	600	489	1526	366.8	425.2	20.6	37.3	1674	1813
†CI-300*-8	17.1	700	571	1782	428.3	496.5	23.9	43.2	1895	2056
†CI-300*-9	19.5	800	652	2034	489.1	566.9	27.2	49	2116	2300
†CI-300*-10	21.9	900	734	2290	550.6	638.3	30.5	54.9	2345	2552
†CI-300*-11	24.3	1000	815	2543	612	708.7	33.8	60.8	2566	2797
†CI-300*-12	26.8	1100	0.897	2799	672.9	780	37.1	66.6	2787	3041
†CI-300*-13	29.2	1200	978	3051	733.7	850.4	40.4	72.5	3057	3341
†CI-300*-14	31.7	1300	1060	3307	795.2	921.7	43.7	78.4	3327	3641
†CI-300*-15	34.1	1400	1141	3560	856	992.2	47	84.3	3597	3941
†CI-300*-16	36.5	1500	1223	3816	917.5	1063.5	50.3	90.1	3867	4241
†CI-300*-17	39	1600	1304	4068	978.2	1133.9	53.6	96	4137	4541
†CI-300*-18	41.4	1700	1386	4324	1039.7	1205.2	56.9	101.9	4407	4841
†CI-300*-19	43.8	1800	1467	4577	1100.5	1275.7	60.2	107.7	4677	5141
†CI-300*-20	46.3	1900	1549	4833	1162	1347	63.5	113.6	4963	5457
†CI-300*-21	48.7	2000	1630	5086	1222.8	1417.4	66.8	119.5	5264	5759

† Insert prefix "P" for Propane \* Insert "S" for steam, "W" for water.



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## ThermoSteam Cast Iron Boilers



### CI-1900-PB Series Power-burner Boiler, Fired with Oil, Gas or Both

CI-1900-PB Cast Iron Boilers are ideal for light commercial hot water or steam heating systems. Sharing all of the features of its larger cousin CI-2800-PB series commercial boilers, ten different sizes are available ranging from 300 MBH to 1340 MBH with high efficiencies.

#### CI-1900-PB Series Boiler Features

- Rugged cast iron heat exchanger sections with integral flue collector
- Flexible, high temperature hydronic seals and ceramic fiber flue gas rope seals reduce assembly time and require no special assembly tools
- Short, individual draw rods simplify assembly and reduce stress
- Front and rear observation ports to visually inspect the flame and combustion chamber
- Easy-to-remove, front access covers and side mounted cover plates for quick and easy boiler cleaning
- Side mounted tankless coil domestic water heaters (when provided) for easy inspection and/or replacement
- Integral cast iron smoke hood with fail-safe breeching damper that is easily adjusted and locked into position
- Factory packaged or knocked down for field assembly
  - Choice of Beckett, Carlin, Powerflame and Gordian-Piatt power burners with a wide array of controls (when provided)



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# ThermoSteam

## Cast Iron Boilers

### CI-1900-PB Series

### Power-burner Boiler Fired with Oil, Gas or Both

#### STANDARD EQUIPMENT

##### All Boilers

- Cast iron wet-base sections tested for 80psi.
- Insulated metal jacket
- Cast iron smokehood with integral damper
- Burner mounting plate with insulation block
- Front and rear flame observation ports
- Steel angle floor rails
- Hi-Temp hydronic port seals

##### Water Boiler/Burner Units

- ASME relief valve, 40 psi
- Theraltimeter
- Manual reset, Hi-Limit control
- Lo-Limit operating control

##### Steam Boiler/Burner Units

- ASME side outlet safety valve, 15 psi
- Steam gauge (0-30 psig)
- Gauge glass with gauge cocks and guards
- Manual reset, Hi-Limit control

Designed and tested to the ASME boiler and pressure vessel code, section IV for maximum allowable working pressure, steam 15 psig, water 80 psig.

Model	Boiler HP	Heating Surface (Sq. Ft.)	Furnace Volume (Cu. Ft.)	I=B=R Gross Output	Net I=B=R Rating (1)			I=B=R Burner Capacity		Draft Loss (in W.C.)	Overfire (4) Pressure (in W.C.)	Water Content (Gals.)		Water Working Weight (Lbs.)	
					Steam		Water	Oil GPH(2)	Gas MBH(3)			Steam	Water	Steam	Water
					(Sq. Ft.)	MBH									
CI#1900*3	9	23.9	2.12	297	929	223	258	2.60	375	0.18	0.28	33.2	38.6	1673.6	1716.8
CI#1900*4	12	35.8	3.50	413	1292	310	359	3.60	520	0.18	0.28	41.1	49.2	2057.8	2122.6
CI#1900*5	17	47.7	4.88	575	1796	431	500	5.00	725	0.20	0.30	49.0	59.8	2442.0	2528.4
CI#1900*6	22	59.7	6.27	738	2308	554	642	6.50	931	0.23	0.33	56.8	70.3	2825.4	2933.4
CI#1900*7	27	71.6	7.65	901	2817	676	783	7.90	1137	0.26	0.36	64.7	80.9	3209.6	3339.2
CI#1900*8	32	83.5	9.04	1063	3321	797	924	9.30	1342	0.29	0.39	72.6	91.5	3593.8	3745.0
CI#1900*9	37	95.4	10.42	1226	3833	920	1066	10.80	1548	0.32	0.42	80.5	102.0	3978.0	4150.0
CI#1900*10	42	107.4	11.81	1388	4383	1052	1207	12.20	1754	0.35	0.45	88.3	112.6	4361.4	4555.8
CI#1900*11	46	119.3	13.20	1551	4946	1187	1348	13.60	1989	0.38	0.48	96.2	123.1	4745.6	4960.8
CI#1900*12	51	131.2	14.58	1713	5508	1322	1490	15.00	2165	0.41	0.51	104.0	133.7	5129.0	5366.6

# No insert for oil. Insert prefix "G" for gas or "GO" for combination gas/oil. \* Insert "S" for steam, "W" for water. Example: CIGO1900-S-10 is a 10-section C1900 Series Boiler for steam using combination gas/oil burner

- (1) The net I=B=R Steam Ratings shown are based on a piping and pickup allowance of 1.333. The I=B=R Water Ratings shown are based on an allowance of 1.15
- (2) Based on light oil having a heat content of 140,000 BTU per gallon
- (3) Gas having a heat content of 1,000 BTU/cu.ft. at 0.6 specific gravity.
- (4) Includes 0.10" W.C. pressure on upstream side of exit damper



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## Cast Iron Boilers



### CI-2800-PB Series Power-burner Boilers, fired with Oil, Gas or Both

CI-2800-PB Cast Iron Boilers are ideal in commercial applications for both hot water and steam heating systems. CI-2800-PB Series boilers are available in fifteen sizes from 900 to 4,270 MBH with high efficiencies.

#### CI-2800-PB Boiler Features

- Rugged cast iron heat exchanger sections with integral flue collector
- High temperature flexible graphite port connectors provide the installation ease of a gasket and long life of a push nipple
- Graphite port connectors and ceramic fiber flue gas rope seals reduce assembly time and require no special assembly tools
- Short, individual draw rods simplify assembly and reduce stress
- Front and rear observation ports to visually inspect the flame and combustion chamber
- Easy-to-remove, front access covers and side mounted cover plates for quick and easy boiler cleaning
- Side mounted tankless coil domestic water heaters (when provided) for easy inspection and/or replacement
- Cast iron smoke hood with integral fail-safe breeching damper that is easily adjusted and locked into position
- Obround shared upper port for improved internal circulation and dry steam
- Factory packaged or knocked down for field assembly
- Choice of Beckett, Carlin, Powerflame and Webster power burners with a wide array of controls (when provided)



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## Cast Iron Boilers CI-2800-PB Series Power-burner Boilers, fired with Oil, Gas

### I B R Ratings, Burner Capacities

Designed and tested to the A.S.M.E. boiler and pressure vessel code, section IV for maximum allowable working pressure, steam 15 PSIG, water 80 PSIG.

Model	Boiler HP	I=B=R Gross Output (MBH)	Net I=B=R Ratings (Note 2)				Heating Surface (Sq. Ft.)	Furnace Volume (Cu. Ft.)	Water Contents (Gals.) Steam	Working Weight (Lbs.)
			Steam		I=B=R Burner Capacity					
			Sq. Ft.	MBH	Oil (Note 3)	Gas (Note 4)				
†CI2800-PB- 4	27	900	2813	675	8	1154	81.2	12.04	103.8	4,215
†CI2800-PB- 5	35	1166	3646	875	10.4	1491	105.3	16.14	125.8	5,038
†CI2800-PB- 6	43	1433	4538	1089	12.6	1827	129.4	20.24	147.8	5,861
†CI2800-PB- 7	51	1699	5458	1310	15	2163	153.5	24.34	169.8	6,684
†CI2800-PB- 8	59	1965	6358	1526	17.4	2499	177.6	28.44	191.8	7,507
†CI2800-PB- 9	67	2232	7221	1733	19.6	2836	201.7	32.54	213.8	8,331
†CI2800-PB- 10	75	2498	8079	1939	22	3172	225.8	36.64	235.8	9,169
†CI2800-PB- 11	83	2764	8942	2146	24.5	3508	249.9	40.74	257.8	9,992
†CI2800-PB- 12	91	3031	9804	2353	26.5	3844	274	44.84	279.8	10,815
†CI2800-PB- 13	98	3297	10667	2560	29	4180	289.1	48.94	301.8	11,649
†CI2800-PB- 14	106	3563	11525	2766	31.5	4517	322.2	53.04	323.8	12,467
†CI2800-PB- 15	114	3830	12392	2974	33.5	4853	346.3	57.14	345.8	13,511
†CI2800-PB- 16	122	4096	13250	3180	36	5189	370.4	61.24	367.8	14,375
†CI2800-PB- 17	130	4362	14113	3387	38.5	5525	394.5	65.34	389.8	15,239
†CI2800-PB- 18	138	4629	14975	3594	40.5	5862	418.6	69.44	411.8	16,103

(Note 1) Important Ordering information  
 (†) Add Prefix for type of fuel to be burned. "LO" for light oil, "G" for Gas or "GO" for gas/oil.  
 Example: LO-CI2800-PB-6 is the model no. for a six section steam boiler firing light oil.  
 (Note 2) Net I=B=R Ratings for steam boilers are based on piping and pick-up factor as follows:  
 4 and 5 section = 1.333  
 6 section = 1.305  
 8 section and larger = 1.288  
 (Note 3) Light oil having a heat content of 140,000 BTU/Gal.  
 (Note 4) Gas having a heat content of 1,000 BTU/Cu. Ft., 0.60 specific gravity  
 • Steel angle floor rails  
 • Ceramic fiber rope seal between sections  
 • Graphite port connectors  
 • Flue brush  
 • Manual reset hi-limit  
 • Operating control  
**ADDITIONAL FEATURES FOR STEAM BOILERS**  
 A.S.M.E. side outlet safety valve,  
 15 psi  
 Gauge glass with cocks and guards

### Burner Specifications

Boiler Number	Burners - Light Oil		Burners - Gas		Burners - Gas/Oil	
	Power Flame		Power Flame		Power Flame	
	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.
CI2800-PB- 4	C1-0	1/2	J30A-12	1/3	C1-G0-12	1/2
CI2800-PB- 5	C1-0	1/2	J50A-15	1/3	C1-G0-12	1/2
CI2800-PB- 6	C2-0A	3/4	J50A-15	1/3	C2-G0-15	3/4
CI2800-PB- 7	C2-0A	3/4	J50A-15	1/3	C2-G0-15	3/4
CI2800-PB- 8	C2-0B	3/4	C2-G-20A	3/4	C2-G0-20A	1
CI2800-PB- 9	C2-0B-1	1 1/2	C2-G-20B-1	1	C2-G0-20B-1	1 1/2
CI2800-PB- 10	C2-0B-1	1 1/2	C2-G-20B-1	1	C2-G0-20B-1	1 1/2
CI2800-PB- 11	C3-0	2	C3-G-20	1 1/2	C3-G0-20	2
CI2800-PB- 12	C3-0	2	C3-G-25	1 1/2	C3-G0-25	2
CI2800-PB- 13	C3-0	2	C3-G-25	1 1/2	C3-G0-25	2
CI2800-PB- 14	C3-0	2	C3-G-25	1 1/2	C3-G0-25	2
CI2800-PB- 15	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
CI2800-PB- 16	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
CI2800-PB- 17	C4-0A	5	C4-G-25	3	C4-G0-25	5
CI2800-PB- 18	C4-0A	5	C4-G-25	3	C4-G0-25	5



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