



# WATER-HEATER

# FIRE COIL

# 85

# AND BOILER

85% EFFICIENT - LOW NOx - EASY TO SERVICE - DIRECT VENT - RELIABLE

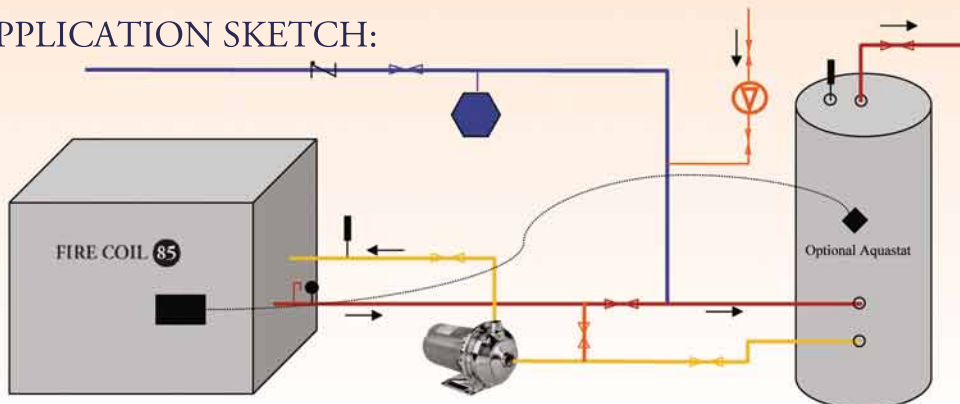
- Combines the reliability of the Fire Coil with the efficiency, flexibility, safety, and environmental responsibility of a sealed-combustion Low-NOx heater.
- Sizes now range from 199,900 to 2,000,000 BTU's.
- 85% efficiency is higher than standard copper-tube water heaters.
- Install all models indoor or outdoor.
- Low-NOx: Less than 10ppm on models 500-2000, less than 30 ppm on models 200-400.
- Flexible venting: vent through roof with B-vent or through side wall using AL29-4C stainless steel vent.
- Draw combustion air ducted from outside or from air inside room.



F85-500 water heater depicted

- First year parts and 30 days labor warranty.
- 5 year full warranty on heat exchanger; 6th through 10th years pro-rated.
- Copper heat exchanger with external gaskets is standard. Cupro-nickel heat exchanger is optional.
- Water heater models 200-400 come with mounted circulator standard. Water heater models 500-2000 packaged with floor mounted stainless steel circulators. All water heaters packaged with NATCO glass-lined storage tanks.

## APPLICATION SKETCH:



National Combustion Co., Inc.

1-888-OK-NATCO

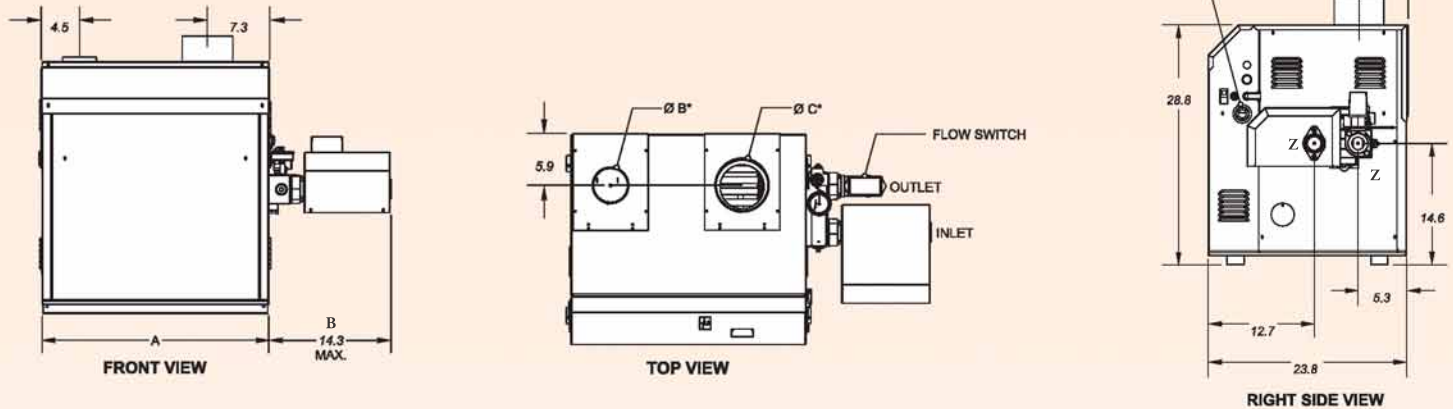
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# FIRE COIL 85 85 DIMENSIONAL DATA

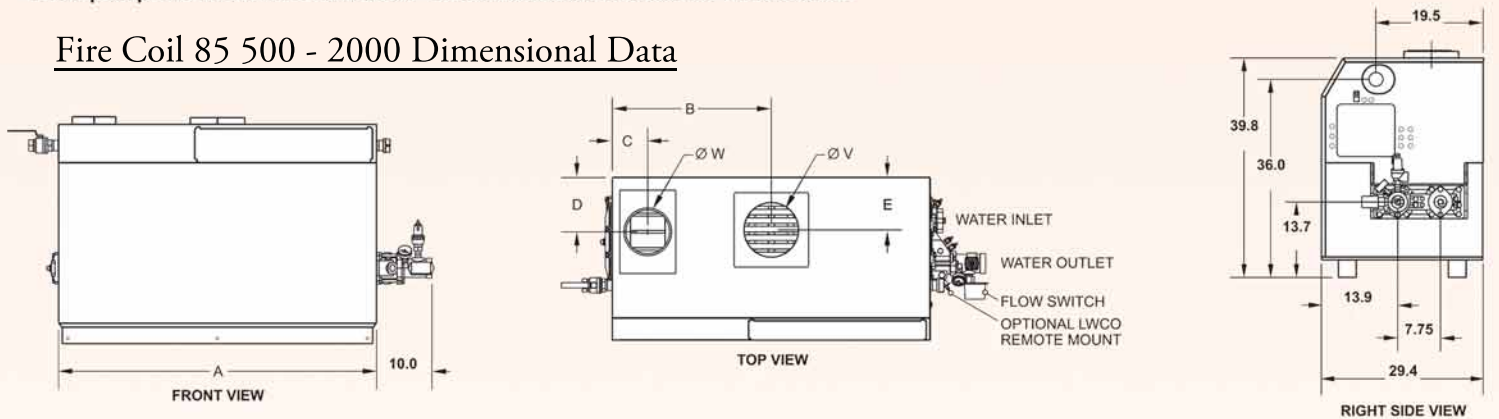
## Fire Coil 85 200 - 400 Dimensional Data



Model	A	B	Full Length	Vent Collar V	Air Intake W	Gas CX X	Water CX Z	Weight
<b>F85-0200P</b>	20.5"	14.3"	34.8"	5"	4"	.75" NPT	1.5" NPT	310 lbs
<b>F85-0300P</b>	26.5"	14.3"	40.8"	6"	4"	.75" NPT	1.5" NPT	340 lbs
<b>F85-0400P</b>	33.6"	14.3"	47.9"	7"	6"	.75" NPT	1.5" NPT	370 lbs

Non pump-mounted units available. See installation manual for dimensions.

## Fire Coil 85 500 - 2000 Dimensional Data



Model	A	B	C	Dim. E	Vent Collar V	Air Intake W	CX Gas	CX Water	Weight
<b>F85-0500</b>	33.75"	16.75"	6.5"	8"	8"	6"	1.25" NPT	2" NPT	425 lbs
<b>F85-0750</b>	45.75"	22.75"	6.5"	9.5"	10"	6"	1.25" NPT	2" NPT	505 lbs
<b>F85-1000</b>	57.75"	28.75"	6.5"	9.5"	10"	8"	2" NPT	2.5" NPT	615 lbs
<b>F85-1250</b>	68.25"	34"	10.25"	9"	12"	8"	2" NPT	2.5" NPT	675 lbs
<b>F85-1500</b>	78.75"	39.5"	10.25"	9"	12"	8"	2" NPT	2.5" NPT	760 lbs
<b>F85-1750</b>	89.25"	44.75"	10.25"	9"	14"	8"	2" NPT	2.5" NPT	825 lbs
<b>F85-2000</b>	99.75"	49.75"	10.25"	9"	14"	12"	2" NPT	2.5" NPT	955 lbs

## Storage Tank Dimensional Data

Model #	Storage Capacity	Hieght	Width	Water Connection	Working Pressure	Weight
<b>ST80*</b>	80 gallons	58-7/8"	24"	2"	150 PSI	183 lbs
<b>ST120*</b>	115 gallons	59-1/4"	28-1/2"	2"	150 PSI	300 lbs.
<b>ST200-ASME</b>	200 gallons	77"	32"	2"	150 PSI	541 lbs.

\* ASME tanks in these sizes are available with similar dimensions. Conatct NATCO for details.

# FIRE COIL **85** APPLICATIONS DATA

## Fire Coil 85 Side-Wall Venting Data

Heater Size	Diameter Collar Vent	Diameter Horizontal Vent Pipe	Diameter Collar & Air Pipe	Max Total Air + Vent Length	Maximum Total 90° Elbows	Part # Side-Wall Vent Term.	Part # Side Wall Air Term.
200	5"	4"	4"	50'	3	CA003101	CA003201
300	6"	5"	5"	50'	3	CA003102	CA003201
400	7"	6"	6"	50'	3	CA003103	CA003202
500	8"	6"	6"	50'	3	CA001401	20260701
750	10"	8"	6"	50'	3	CA001401	20260701
1000	10"	8"	8"	50'	3	CA001402	20260703
1250	12"	8"	8"	50'	3	CA001403	20260703
1500	12"	8"	8"	50'	3	CA001403	20260703
1750	12"	8"	8"	50'	3	CA001403	20260703
2000	14"	12"	12"	50'	3	CA001404	20260706

UL1738/AL29-4C material must be used for side-wall vent. Contact NATCO for details. Vertical venting to be designed in accordance with relevant national and local codes.

## Fire Coil 85 Recovery Rate Data

Heater Size	Input BTU's	Output BTU's	GPH @ 60° Rise	GPH @ 70° Rise	GPH @ 80° Rise	GPH @ 90° Rise	GPH @ 100° Rise	GPH @ 120° Rise
200	199,900	169,915	340	291	255	227	204	170
300	300,000	255,000	510	437	383	340	306	255
400	399,900	339,915	680	583	510	453	408	340
500	500,000	425,000	850	729	638	567	510	425
750	750,000	638,000	1277	1094	957	851	766	638
1000	1,000,000	849,000	1699	1456	1274	1132	1019	849
1250	1,250,000	1,062,500	2126	1822	1594	1417	1276	1063
1500	1,500,000	1,275,000	2551	2187	1913	1701	1531	1276
1750	1,750,000	1,487,500	2976	2551	2232	1984	1786	1488
2000	2,000,000	1,699,000	3399	2914	2550	2266	2040	1700

## Fire Coil 85 Water Flow Requirements and Pressure Drop Data

Heater Size	Normal Water			Hard Water *			Boiler †		
	Flow Rate	Temp. Rise	Head Loss	Flow Rate	Temp. Rise	Head Loss	Flow Rate	Temp. Rise	Head Loss
200	35 gpm	10°	4.4'	45 gpm	8°	7.3'	17 gpm	20°	1.6'
300	35 gpm	15°	4.5'	45 gpm	11°	7.4'	26 gpm	20°	3.5'
400	35 gpm	19°	4.5'	45 gpm	15°	7.4'	34 gpm	20°	6.3'
500	68 gpm	13°	2.3'	90 gpm	9°	3.5'	43 gpm	20°	1.7'
750	68 gpm	19°	3'	90 gpm	14°	6'	64 gpm	20°	3.3'
1000	68 gpm	25°	3.6'	90 gpm	19°	6.1'	85 gpm	20°	5'
1250	68 gpm	31°	3.8'	90 gpm	24°	6.3'	106 gpm	20°	8.1'
1500	68 gpm	38°	3.9'	90 gpm	28°	6.5'	128 gpm	20°	10'
1750	68 gpm	44°	4'	90 gpm	33°	6.7'	119 gpm	25°	10.5'
2000	112 gpm	30°	10'	112 gpm	30°	10'	136 gpm	25°	12.5'

\* Cupro-nickel heat exchangers are required for hard water applications.

† Primary-secondary piping is recommended for boiler systems.

**I-888-OK-NATCO**

## STANDARD EQUIPMENT



F85-400P water heater depicted.

- 160 PSI working pressure heat exchanger.
- ASME “H” Stamp present on all pressure vessels.
- Flanged water connections.
- 125 PSI Pressure Relief valve on water heaters, 75 PSI Pressure Relief valve on boilers
- Flow switch for heat exchanger protection.
- LWCO standard on models 500-2000.
- CSD-1 compliance standard on all models.
- Pump time-delay relays with post purge.
- Automatic and manual reset limit controls for redundant temperature protection.

## WHY CHOOSE A NATCO?

- For the quality and reliability of the NATCO Fire Coil in a Low-NO<sub>x</sub>, sealed combustion water heater.
- For a mid-efficiency, flexible water heater or boiler that’s easy to understand and service.
- For our expertise in sizing and applying systems for the following uses: coin laundries, on-premise laundries, industrial laundries, car washes, restaurants, hotels, concrete production, and industrial processes.
- Because you trust NATCO’s customer service, experience, and attention to detail.



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**National Combustion Co., Inc.**  
**Commercial Water-Heating & Heating Solutions**

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