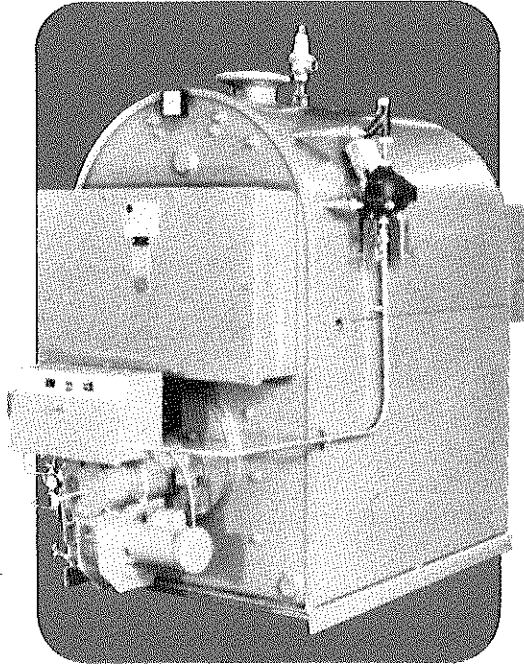


# KEWANEE® TYPE "K-4"

## Packaged Firebox Boiler Oil, Gas, Combination Oil/Gas Fired



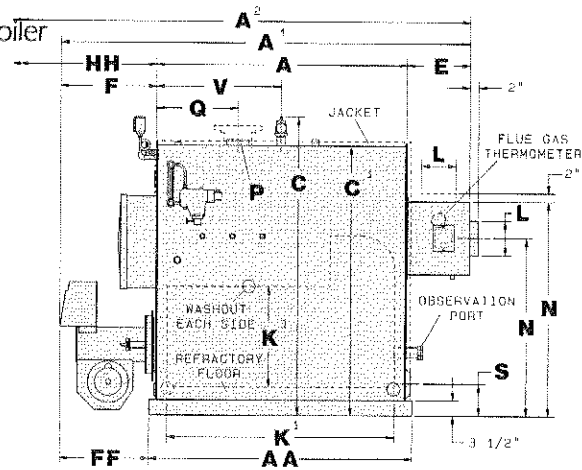
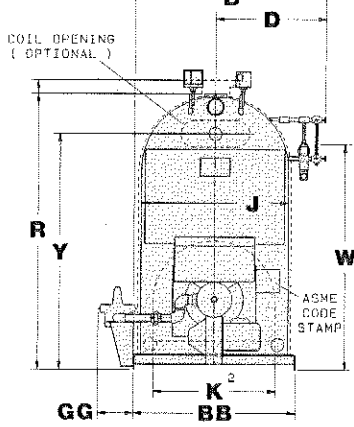
- These units, rated at 4.0 square feet of surface per boiler horsepower, optimize first cost and floor space, yet retain very acceptable levels of efficiency and longevity.
- Type "K" Packages are offered in 15 sizes ranging from 527,000 to 5,649,000 Btu/Hr (15.7 to 168.7 Bhp) fired by a Kewanee gas, oil, or combination gas-oil burner.
- Meets requirements of the ASME Code for 15 psi steam or 30 psi water pressure. ASME Code for 60 psi water pressure also available.
- Forced draft operation eliminates the need for tall, costly stacks or induced draft fans.
- Three Pass Wetback Design provides maximum heat transfer with low stack temperature. The large firebox with arched upright crown sheet provides an exceptionally high proportion of the primary (radiant) heating surface which is many times more efficient than secondary (indirect) heating surface. Its extra large furnace volume assures complete combustion, clean firing, unrestricted gas flow, low heat release, smooth starts, and quiet operation.
- Wetback Design has a rear water wall which becomes part of the most effective heating surface of the boiler.

- Water units are furnished with burner controls, low water cut-off, relief valve(s), combination altitude gauge and thermometer, 3" flue gas thermometer. Low fire hold aquastat is added on K-4.0-253 thru K-4.0-619.
- Front fluebox cover with lightweight blanket insulation securely keyed in place. All firetubes are 2" and are roller expanded.
- Rear fluebox available with top or rear outlet. 3" cast refractory floor retains smooth reflecting and insulating qualities in transit and operation.
- 22 gauge factory installed steel jacket with attractive smooth enamel finish.
- Like most firetube boilers, it is easy to clean and maintain. Firetubes can be cleaned with flue scrapers. Waterside can easily be flushed and inspected through generous washouts. This is in marked contrast to other types of boilers.
- Generous water content, large disengaging area, and steam space offer instant reserve capacity and high quality steam.
- Guaranteed fuel to steam or fuel to water efficiencies at 50-75 and 100% firing rates.
- Units are insulated, completely assembled with burner, accessories and skid type base. Units can be installed by fork truck, hoist or rollers. Only service connections are needed to place units in operation.
- Steam units are furnished with burner controls, combination water column, low water cut-off, pump control, safety valve(s), compound steam, vacuum gauge, water gauge, and 3" flue gas thermometer. Units K-4.0-59 thru K-4.0-315 are furnished with a low water cutoff.

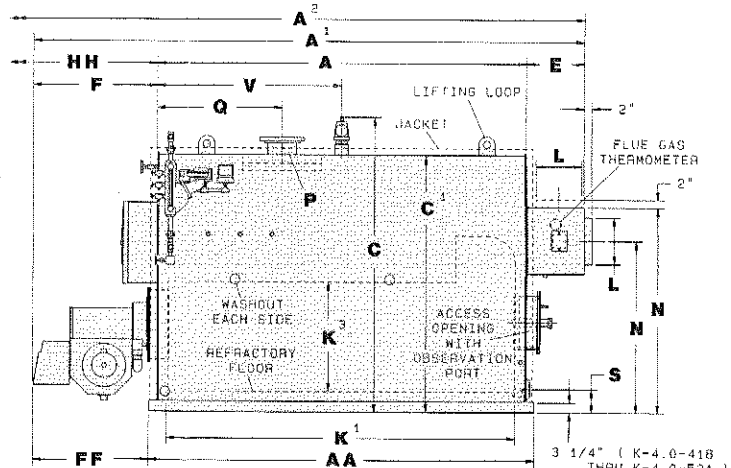
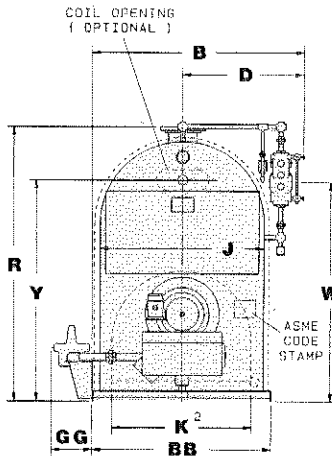
### RATINGS & DATA

UNIT NUMBER	K-4.0	59	72	85	98	118	142	166	192	220	253	284	315	418	521	619
<b>Rating —</b>																
MBh .....	527	653	770	895	1,063	1,289	1,506	1,749	2,000	2,301	2,586	2,870	3,766	4,703	5,649	
Horsepower .....	15.7	19.5	23.0	26.7	31.7	38.5	45.0	52.2	59.7	68.7	77.2	85.7	112.5	140.5	168.7	
Steam — 212°F .....	543	673	793	922	1,095	1,323	1,552	1,802	2,061	2,371	2,665	2,958	3,881	4,846	5,821	
Steam (gross output) .....	2,196	2,721	3,208	3,729	4,429	5,371	6,275	7,288	8,333	9,588	10,775	11,958	15,692	19,596	23,538	
Steam (net output) .....	1,651	2,046	2,412	2,804	3,300	4,038	4,718	5,479	6,266	7,209	8,102	8,991	11,798	14,734	17,697	
<b>Firing rate —</b>																
Gas (1,000 Btu/cu. ft.) .....	659	816	962	1,119	1,329	1,611	1,883	2,166	2,500	2,876	3,232	3,588	4,707	5,879	7,061	
Oil (140,000 Btu/gal.) .....	4.7	5.8	6.9	8.0	9.5	11.5	13.5	15.6	17.9	20.5	23.1	25.6	33.6	42.0	50.4	
Oil (150,000 Btu/gal.) .....	—	—	—	—	—	—	—	—	—	19.2	21.5	23.9	31.4	39.2	47.1	
<b>Waterside Heating Surface —</b>																
Primary .....	19.0	21.1	23.2	25.4	30.8	34.2	37.6	41.4	47.6	51.9	55.9	59.9	86.3	100.2	112.9	
Total .....	63	78	92	107	127	154	180	209	239	275	309	343	450	562	675	
<b>Fireside Heating Surface —</b>																
Primary .....	18.4	20.5	22.6	24.7	30.0	33.3	36.7	40.5	46.5	50.8	54.7	57.7	82.6	95.8	108.4	
Total .....	59	72	85	98	118	142	166	192	220	253	284	315	418	521	619	
<b>Furnace volume .....</b>																
cu. ft.	7.8	9.1	10.5	11.7	15.4	17.9	20.4	23.3	29.5	33.4	37.1	40.8	66.0	80.4	94.3	
<b>Required Safety Valve Capacity</b>																
Steam per hr .....	527	653	770	895	1,063	1,289	1,506	1,749	2,000	2,301	2,586	2,870	3,766	4,703	5,649	
Insulation Thickness .....	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	1"	2"	2"	2"	
Approx. dry weight .....	1,900	2,050	2,200	2,350	2,600	2,950	3,300	3,650	4,000	4,450	4,900	5,300	8,200	9,300	10,800	

# KEWANEE Type "K-4" Packaged Firebox Boiler



K-4.0-59 thru K-4.0-315



K-4.0-418 thru K-4.0-619

## DIMENSIONS (feet-inches)

UNIT NUMBER	K-4.0-	59	72	85	98	118	142	166	192	220	253	284	315	418	521	619
A	Boiler length	2'6 1/2"	3'0"	3'6 1/2"	4'0"	3'6 1/2"	4'2 1/2"	4'10"	5'7"	4'8 1/2"	5'4 1/2"	6'0"	6'7 1/2"	7'7"	9'4"	11'0"
A <sup>1</sup>	Overall length	5'9"	6'3 1/2"	6'9 1/2"	7'3"	6'11 1/2"	7'5 1/2"	8'0"	8'9 1/2"	8'11 1/2"	9'7 1/2"	10'3"	10'10 1/2"	12'2 1/2"	13'11 1/2"	16'0 1/2"
A <sup>2</sup>	Overall length including tube removal	6'2 1/2"	7'2 1/2"	8'2 1/2"	9'2 1/2"	8'4 1/2"	9'8 1/2"	10'11 1/2"	12'5 1/2"	10'10 1/2"	12'2 1/2"	13'5 1/2"	14'8 1/2"	16'8 1/2"	20'2 1/2"	23'6 1/2"
B	Overall width	3'5"	3'5"	3'5"	3'5"	3'8 1/2"	3'8 1/2"	3'8 1/2"	3'8 1/2"	4'4"	4'4"	4'4"	4'4"	5'4 1/2"	5'4 1/2"	5'4 1/2"
C	Overall height	5'3"	5'3 1/2"	5'3 1/2"	5'3 1/2"	6'0 1/2"	6'0 1/2"	6'2"	6'2"	6'11"	6'11 1/2"	7'0 1/2"	7'0 1/2"	7'10 1/2"	7'10 1/2"	8'3 1/2"
C <sup>1</sup>	Shell height	4'7"	4'7"	4'7"	4'7"	5'2"	5'2"	5'2"	5'2"	5'11"	5'11"	5'11"	5'11"	6'5 1/2"	6'5 1/2"	6'10 1/2"
D	Boiler centerline to greatest width	2'0 1/2"	2'0 1/2"	2'0 1/2"	2'0 1/2"	2'2 1/2"	2'2 1/2"	2'2 1/2"	2'2 1/2"	2'6"	2'6"	2'6"	2'6"	3'1 1/2"	3'1 1/2"	3'1 1/2"
E	Rear fluebox depth	1'0"	1'0"	1'0"	1'0"	1'2 1/2"	1'2 1/2"	1'2 1/2"	1'2 1/2"	1'4 1/2"	1'4 1/2"	1'4 1/2"	1'4 1/2"	1'5 1/2"	1'5 1/2"	1'5 1/2"
F	Burner to front of boiler	2'2 1/2"	2'2 1/2"	2'2 1/2"	2'2 1/2"	2'2 1/2"	2'0"	2'0"	2'0"	2'10 1/2"	2'10 1/2"	2'10 1/2"	2'10 1/2"	3'2"	3'2"	3'7"
J	Boiler inside width	2'4 1/2"	2'4 1/2"	2'4 1/2"	2'4 1/2"	2'8 1/2"	2'8 1/2"	2'8 1/2"	2'8 1/2"	3'3 1/2"	3'3 1/2"	3'3 1/2"	3'3 1/2"	4'0"	4'0"	4'0"
K <sup>1</sup>	Firebox length	2'1 1/2"	2'7 1/2"	3'1 1/2"	3'7 1/2"	3'1 1/2"	3'9"	4'5"	5'2"	4'3"	4'11"	5'6 1/2"	6'2"	7'0 1/2"	8'9 1/2"	10'5 1/2"
K <sup>2</sup>	Firebox width	2'0"	2'0"	2'0"	2'0"	2'4"	2'4"	2'4"	2'4"	2'11"	2'11"	2'11"	2'11"	3'6"	3'6"	3'6"
K <sup>3</sup>	Firebox height	1'6 1/2"	1'6 1/2"	1'6 1/2"	1'6 1/2"	1'11"	1'11"	1'11"	1'11"	2'4"	2'4"	2'4"	2'4"	2'9"	2'9"	2'9"
L	Flue outlet diameter	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"	10"	12"	12"	14"
N	Flue outlet height															
	— Rear outlet	3'0"	3'0"	3'0"	3'0"	3'5"	3'5"	3'5"	3'5"	3'11 1/2"	3'11 1/2"	3'11 1/2"	3'11 1/2"	4'3 1/2"	4'3 1/2"	4'8 1/2"
	— Top outlet	3'6 1/4"	3'6 1/4"	3'6 1/4"	3'6 1/4"	4'1 1/4"	4'1 1/4"	4'1 1/4"	4'1 1/4"	4'9 1/2"	4'9 1/2"	4'9 1/2"	4'9 1/2"	5'1 1/2"	5'1 1/2"	5'6 1/2"
P	Supply size	4"	4"	4"	4"	4"	4"	4"	4"	6"	6"	6"	6"	8"	8"	8"
Q	Supply location	10"	10"	12"	14"	12"	15"	17"	11'0"	14"	16"	18"	2'0"	2'3"	3'2"	4'0"
R	Supply height	4'8"	4'8"	4'8"	4'8"	5'3 1/2"	5'3 1/2"	5'3 1/2"	5'3 1/2"	6'3 1/2"	6'3 1/2"	6'3 1/2"	6'3 1/2"	6'11"	6'11"	7'4"
S	Return location	7"	7"	7"	7"	7 1/2"	7 1/2"	7 1/2"	7 1/2"	7 1/2"	7 1/2"	7 1/2"	7 1/2"	7"	7"	10"
	— Return size	3"	3"	3"	3"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
V	Safety valve location	16"	1'8"	1'10"	2'0"	1'10"	2'3"	2'5"	2'8"	2'4"	2'6"	2'8"	3'0"	3'9"	4'8"	5'6"
W	Normal waterline	3'10"	3'10"	3'10"	3'10"	4'5"	4'5"	4'5"	4'5"	5'1"	5'1"	5'1"	5'1"	5'5"	5'5"	5'10"
Y	Coil connection height (Optional)	3'11"	3'11"	3'11"	3'11"	4'6"	4'6"	4'6"	4'6"	5'2"	5'2"	5'2"	5'2"	5'7"	5'7"	5'11 1/2"
AA	Base length	2'9 1/2"	3'3 1/2"	3'9 1/2"	4'3 1/2"	3'9 1/2"	4'5 1/2"	5'1 1/2"	5'10"	4'11 1/2"	5'7 1/2"	6'3 1/2"	6'10 1/2"	8'0"	9'9"	11'5"
BB	Base width	2'8 1/2"	2'8 1/2"	2'8 1/2"	2'8 1/2"	2'11 1/2"	2'11 1/2"	2'11 1/2"	2'11 1/2"	3'8"	3'8"	3'8"	3'8"	4'6"	4'6"	4'6"
FF	Burner front to base	2'1"	2'1"	2'1"	2'1"	2'1"	1'10 1/2"	1'10 1/2"	1'10 1/2"	2'9"	2'9"	2'9"	2'9"	2'11 1/2"	2'11 1/2"	3'4 1/2"
GG	Standard gas train to base	6"	6"	6"	6"	7"	7"	8"	8"	8"	8"	10"	10"	10"	10"	12"
HH	Tube removal space	2'7 1/2"	3'1 1/2"	3'7 1/2"	4'1 1/2"	3'7 1/2"	4'3 1/2"	4'11"	5'8"	4'9 1/2"	5'5 1/2"	6'1"	6'8 1/2"	7'8"	9'5"	11'1"

\*K-4.0-619 Top oval outlet 12" x 15" \*\*150 lb. ANSI Flange †Add GG for increased width on gas and gas-oil units

DIMENSIONS, DATA SUBJECT TO CHANGE WITHOUT NOTICE



101 Franklin Street, Kewanee, Illinois 61443

(309) 853-3541 • (309) 852-0424