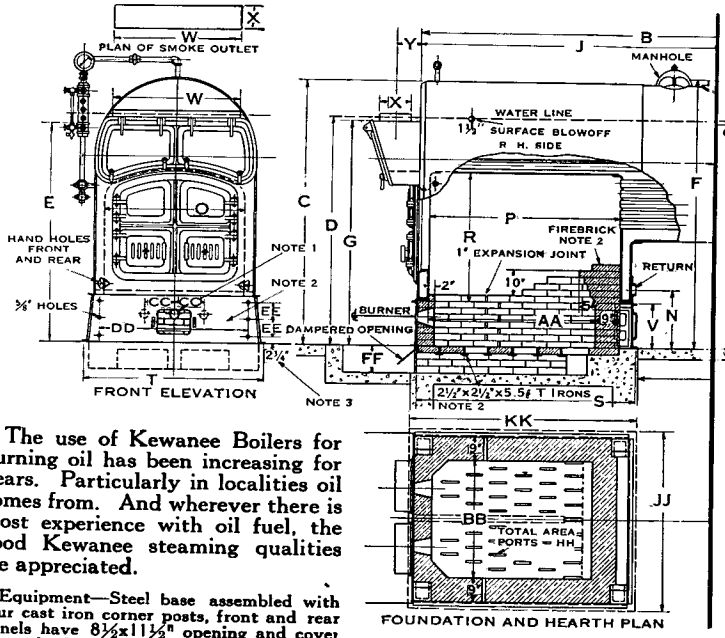
KEWANEE Up-draft Firebox Boiler "400" Series For Oil, Gas or Stoker



The use of Kewanee Boilers for burning oil has been increasing for years. Particularly in localities oil comes from. And wherever there is most experience with oil fuel, the good Kewanee steaming qualities are appreciated.

Equipment—Steel base assembled with four cast iron corner posts, front and rear panels have 8½x11½" opening and cover plate; backstand; fire and flue doors; flue cleaner and handle. Manhole furnished on all sizes.

Trimmings for Steam Only—Safety valve, steam gauge with syphon and cock, water column with water gauge, glass and cocks.

For Cut-away View "400" Series Oil-Gas, see page 24. And for Stoker, Similar to page 2.

Footings may be required under base corner posts depending on soil conditions.

Note 1. For one burner only, locate on center line of boiler and use single hearth plan instead of double.

Note 2. Steel plate with dampers, or for special burner mountings, also fire brick lining and hearth angles, not furnished by Kewanee Boiler Corporation.

Note 3. This dimension 1¾" on No. 480 and 481.

Note 4. Average Firebox Height is computed by dividing the firebox volume by the plan area. On stoker fired boilers 485 to 490 additional furnace height and volume for S.H.B.I. standard may be provided in base. Or extended water leg may be ordered, and two firedoors.

Specifications and Setting Measurements

Boiler Number	480	481	482	483	484	485	486	487	488	489	490
Rating—Steam Radiation Sq. Ft.	7290	8500	10330	12150	15180	18220	21250	24290	30360	36430	42500
Water Radiation Sq. Ft.	11660	13600	16520	19440	24280	29150	34000	38860	48570	58280	68000
Btu. per Hour 1000's	1750	2040	2479	2916	3643	4373	5100	5830	7286	8743	10200
Heating Surface (SHBI min.) Sq. Ft.	429	500	608	715	893	1072	1250	1429	1786	2143	2500
Furnace Volume (SHBI min.) Cu. Ft.	52.1	60.8	73.8	86.8	108.5	130.2	151.8	173.5	216.9	260.3	303.6
Net Furnace Volume, Oil-Gas Cu. Ft.	70.0	79.4	119.6	137.5	162.2	170.7	198.2	228.3	260.8	304.4	323.3
Firebox Volume Above Mud Ring Cu. Ft.	62.1	69.6	97.0	110.4	130.9	137.2	160.2	183.2	207.8	231.9	245.5
Average Firebox Height (See Note 4) In.	44.4	44.4	43.8	43.8	46.6	46.6	49.4	49.5	49.5	51.0	51.0
Added Furnace Height, for Stoker (SHBI) In.	.....	.....	.....	.....	.....	5	5	7	12	15	20
Hi-Firebox Volume Cu. Ft.	.....	.....	.....	.....	.....	151.9	176.4	209.2	258.2	300.2	341.9
Plan Area Sq. Ft.	16.8	18.8	26.6	30.3	33.7	35.3	38.9	44.5	50.4	54.6	57.8
Breeching Diameter In.	23	24	26	28	30	31	33	35	39	41	43
Stack Diameter In.	21	22	24	26	28	29	31	33	36	38	40
Stack Height Ft.	45	55	50	60	60	70	70	70	85	85	100
Breeching Diameter, Two Boilers In.	30	31	34	36	40	41	44	47	50	54	56
Stack Diameter, Two Boilers In.	28	29	32	34	37	38	41	44	47	50	52
Stack Height, Two Boilers Ft.	55	65	60	70	70	80	80	80	95	95	110
Steam Supply Size In.	8	8	8	8	8	8	8	8	10	10	10
Return Size In.	4	4	4	4	4	4	4	4	6	6	6
Safety Valve Size In.	2½	2½	3	3	2-2	2-2½	2-2½	2-2½	2-2½	2-3	2-3
Shipping Weight Lb.	9300	10400	12200	13600	15800	18100	20300	22300	26400	30200	33800
A—Boiler Diameter In.	54	54	60	60	66	66	72	78	78	84	84
B—Boiler Length Ft. In.	11-5	13-1½	13-4½	15-5½	15-6½	18-0½	17-0	17-7½	21-3½	20-7	23-4
C—Boiler Height Overall In.	94	94	101	101	107	107	113	115	115	125	125
D—Water Line In.	78	78	85	85	88½	88½	94½	95	95	107½	107½
E—Water Column Height In.	76	76	83	83	86½	86½	92½	93	93	105½	105½
F—Steam Supply Height In.	96	96	103	103	109	109	115	117	117	127½	127½
G—Breeching Connection Height In.	81	81	86	86	89	89	96	97	97	109	109
H—Rear Stand Height In.	40	40	41	41	41	41	41	37	37	41	41
J—Steam Supply Location Ft. In.	8-0	9-0	10-0	10-9	11-0	11-6	11-6	12-0	13-9	13-6	14-0
K—Safety Valve Location In.	15	15	15	16	18	21	18	21	28	28	42
L—Safety Valve Location In.	.....	.....	.....	.....	12	12	12	12	12	12	12
N—Return Height In.	19½	19½	22½	22½	22½	22½	22½	22½	23½	27½	27½
O—Firebox Width In.	48	48	53	53	59	59	65	71	71	77	77
P—Firebox Length In.	50	56	72	82	82	86	86	90	102	102	108
R—Firebox Height In.	49	49	49	49	52	52	54½	55	55	57	57
S—Base Length In.	60	66	83	93	93	97	97	101½	113½	113½	119½
T—Base Width In.	59½	59½	66	66	72	72	78	84	84	90½	90½
V—Base Height In.	14	14	17	17	17	17	17	17	17	21	21
W—Breeching Connection Length In.	40	40	44	44	51	51	54	60	60	64	64
X—Breeching Connection Width In.	12	12	14	14	15	15	19	18	18	22	22
Y—Breeching Connection Location In.	8	8	9	9	9½	9½	11½	11	11	13	13
Z—Rear Door Clearance In.	30	30	33	33	36	36	39	42	42	45	45
AA—Furnace Length In.	41	47	63	73	73	77	77	81	93	93	99
BB—Furnace Width In.	36	36	42	42	48	48	54	60	60	66	66
CC—Burners Location In.	8½	8½	9½	9½	11	11	12½	14	14	15	15
DD—Bolt Centers in Plate In.	49½	49½	55½	55½	61½	61½	67½	73½	73½	79½	79½
EE—Bolt Centers in Plate In.	4¾	4¾	5¾	5¾	5¾	5¾	5¾	5¾	5¾	7¾	7¾
FF—Pit Depth In.	10	10	10	10	10	11	11	12	12	13	13
GG—Rear Stand Location In.	64	78	63	76	78	86	92	92	106	96	120
HH—Total Area Ports or Openings Sq. In.	110	127	155	182	230	273	320	365	455	545	640
JJ—Foundation Width In.	65½	65½	70½	70½	76½	76½	82	88	88	94	94
KK—Foundation Length In.	61	67	84	94	94	98	98	102½	114½	114½	120½
Size of Dampered Opening In.	7x16	7x18	7x22	7x26	2-7x16	2-8x17	2-8x20	2-9x20	2-9x25	2-10x27	2-10x32
Number of Fire Brick	395	420	575	625	660	680	715	780	835	990	1020
*Outside Surface to Cover Sq. Ft.	185	210	235	275	290	335	345	375	450	465	520

*Front smokebox and front head below smokebox NOT included.