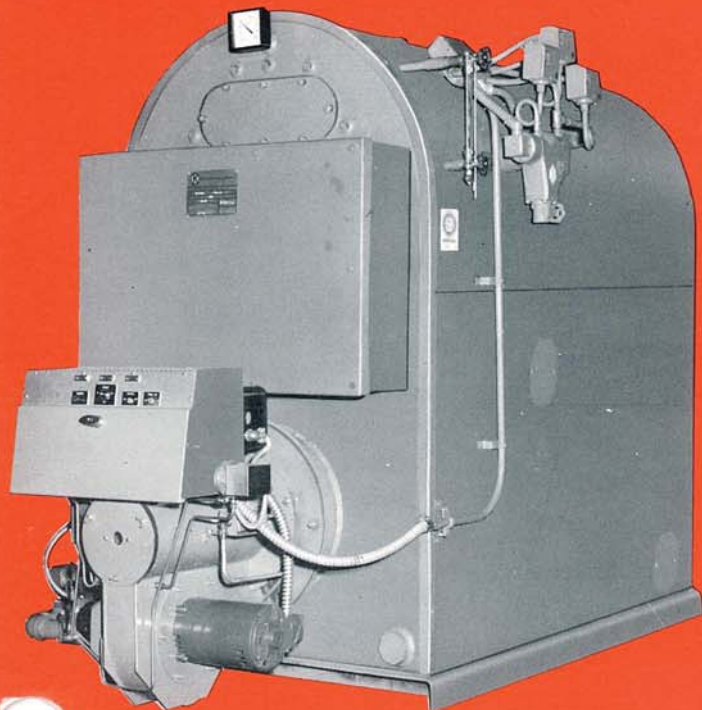


Type "M" Package



- ASME code constructed Boiler for 15 psi Steam or 30 psi Water Working Pressure.
- Three Pass Design assures maximum heat transfer with low stack temperature . . . highest operating efficiency. The large firebox with arched upright crown sheet provides thorough mixing of fuel and air . . . complete combustion before hot gases enter fire tubes. The second pass is rear to front through the direct fire tubes . . . the third from front to rear in the return tubes. There are no refractory baffles to burn out and permit short circuiting of gases.
- All welded integral construction utilizing flange quality steel provides strength, durability and gas tight operation.
- Steel jacket with attractive smooth enamel finish. Glass or mineral fiber insulation minimizes heat loss.
- A steel access cover with insulation securely keyed in place provides easy access to flues without disturbing fuel burning equipment. All tubes are roller expanded. 2" firetubes are used in all units.
- Type "M" Packages are offered in 15 sizes ranging from 450,000 to 5,050,000 Btuh, fired by a KEWANEE gas, oil or combination gas-oil burner.
- Forced draft operation provides ample combustion air for stub stack applications. Only a vent to the outside is needed. Special assemblies are available for high altitude installations.
- Steam units furnished with a complete line of controls, consisting of, low water cut-off (Units M-45 thru M-265), combination water column, low water cut-off, and pump control (Units M-335 thru M-505), safety valve(s), compound steam and vacuum gauge and water gauge and glass.
- Water units furnished with a complete line of controls, consisting of, low water cut-off, relief valve(s) and combination altitude gauge and thermometer.
- Units are completely assembled with burner, accessories and insulated, skid type base. Units can be moved in by fork truck, hoist or rollers. Only service connections are needed to place units in operation.

The Kewanee Type "M" Package is a result of intensive research backed by over a hundred years of boiler experience. The secret of this remarkable design, which results in highest efficiency, top-quality performance, and long dependable service, is . . . exceptionally high proportion of primary (direct) heating surface which is many times more efficient than secondary (indirect) heating surface . . . plus . . . extra large furnace volume for complete combustion, smooth starts, clean firing, quiet operation, unrestricted gas flow and low heat release.

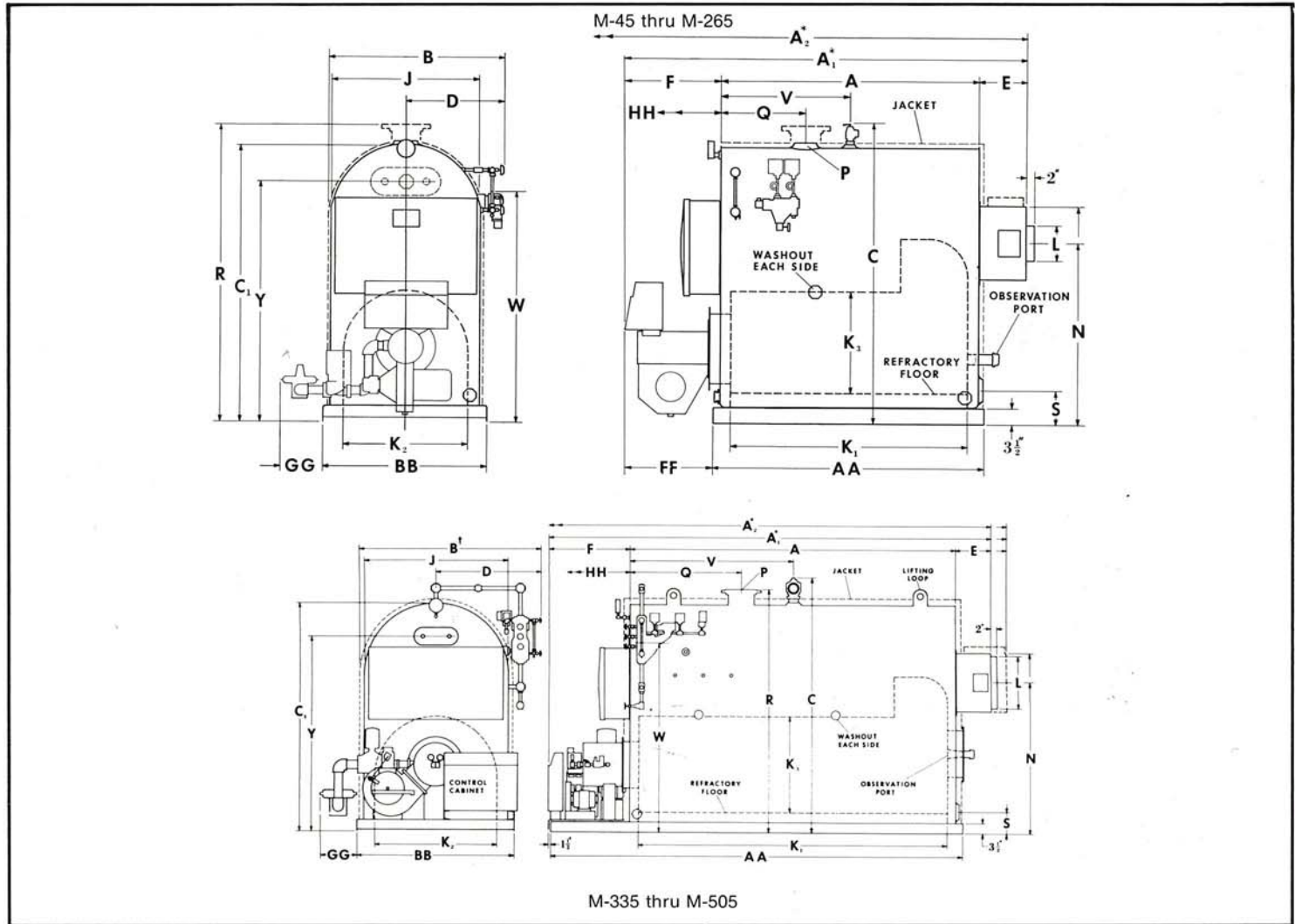
All this in a unit that provides more energy per square foot of occupied floor space than any other comparable unit. These units require up to 40% less space than our competitors.

This amazing compactness makes the Type "M" Package ideal for office and store buildings, schools, motels, hospitals, small factories, apartments and other buildings of medium size.

RATINGS & DATA															
UNIT NUMBER	M-45	M-55	M-65	M-75	M-95	M-115	M-135	M-155	M-175	M-205	M-235	M-265	M-335	M-425	M-505
Rating — MBh	450	550	650	750	950	1,150	1,350	1,550	1,750	2,050	2,350	2,650	3,350	4,250	5,050
— Horsepower	13.4	16.4	19.4	22.4	28.4	34.4	40.3	46.3	52.3	61.2	70.0	80.0	100.0	126.9	150.8
— Steam per hour — 212°F . lbs.	464	567	670	773	979	1,186	1,392	1,598	1,804	2,113	2,423	2,732	3,452	4,380	5,204
— Steam (gross output) . . . sq. ft.	1,875	2,291	2,708	3,125	3,958	4,792	5,625	6,458	7,292	8,542	9,791	11,042	13,958	17,708	21,042
— Steam (MCA net) sq. ft.	1,410	1,723	2,036	2,349	2,976	3,603	4,230	4,855	5,483	6,422	7,362	8,302	10,490	13,110	15,733
Firing rate — Gas 1,000 Btu/cu. ft. . . .	563	688	813	938	1,188	1,438	1,688	1,938	2,188	2,563	2,937	3,313	4,181	5,312	6,312
— Oil 140,000 Btu/gal.	4.0	4.9	5.8	6.7	8.5	10.3	12.1	13.8	15.6	18.3	21.0	23.6	30.0	38.0	45.0
— Oil 150,000 Btu/gal.	—	—	—	—	—	—	—	—	—	—	—	—	27.9	34.8	41.7
Heating surface — Total sq. ft.	63	78	92	107	127	154	180	209	239	275	309	343	450	562	675
— Primary sq. ft.	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
Furnace volume 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
Safety valve capacity—Steam per hr. . lbs.	504	624	736	856	1,016	1,232	1,440	1,672	1,910	2,200	2,472	2,744	3,600	4,496	5,400
Approx. dry weight lbs.	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

DIMENSIONS

**KEWANEE
TYPE "M" PACKAGE**



M-335 thru M-505

DIMENSIONS (inches)

UNIT NUMBER	M-45	M-55	M-65	M-75	M-95	M-115	M-135	M-155	M-175	M-205	M-235	M-265	M-335	M-425	M-505
A — Boiler length	30 1/2	36 1/2	42 1/2	48 1/2	42 1/2	50 1/2	58	67	56 1/2	64 1/2	72	79 1/2	91	112	132
A ₁ — Overall length*	65	71	77	83	77	85	92 1/2	99	89 1/2	107 1/2	115	122 1/2	136	157	177
A ₂ — Overall length including tube removal*	70	82	94	106	94	110	125	143	123	139	154	169	195	237	277
B — Overall width	39	39	39	39	43	43	43	43	49 1/2	49 1/2	49 1/2	49 1/2	64 1/2	64 1/2	64 1/2
C — Overall height	61	61	61 1/2	61 1/2	68	68 1/2	68 1/2	68 1/2	78 1/2	78 1/2	78 1/2	82	84 1/2	85 1/2	88
C ₁ — Shell height	55	55	55	55	62	62	62	62	71	71	71	71	78	78	78
D — Boiler centerline to greatest width	22 1/2	22 1/2	22 1/2	22 1/2	24 1/2	24 1/2	24 1/2	24 1/2	27 1/2	27 1/2	27 1/2	27 1/2	37 1/2	37 1/2	37 1/2
E — Rear smokebox depth															
— Rear outlet	8	8	8	8	8	8	8	8	9	9	9	9	12	12	12
— Top outlet	8 1/2	8 1/2	8 1/2	8 1/2	10 1/2	10 1/2	10 1/2	10 1/2	12 1/2	12 1/2	12 1/2	12 1/2	17 1/2	17 1/2	17 1/2
F — Burner to front of boiler	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	24	24	34	34	34	33	33	33
J — Boiler inside width	28 1/2	28 1/2	28 1/2	28 1/2	32 1/2	32 1/2	32 1/2	32 1/2	39 1/2	39 1/2	39 1/2	39 1/2	48	48	48
K ₁ — Firebox length	25 1/2	31 1/2	37 1/2	43 1/2	37 1/2	45	53	62	51	59	66 1/2	74	84 1/2	105 1/2	125 1/2
K ₂ — Firebox width	24	24	24	24	28	28	28	28	35	35	35	35	42	42	42
K ₃ — Firebox height	18 1/2	18 1/2	18 1/2	18 1/2	23	23	23	23	28	28	28	28	36	36	36
L — Smoke outlet diameter	6	6	6	6	8	8	8	8	10	10	10	10	16	16	18
N — Smoke outlet height															
— Rear outlet	36	36	36	36	41	41	41	41	47 1/2	47 1/2	47 1/2	47 1/2	52	52	52
— Top outlet	42 1/4	42 1/4	42 1/4	42 1/4	49 1/4	49 1/4	49 1/4	49 1/4	57 1/2	57 1/2	57 1/2	57 1/2	62	62	62
P — Supply size	4	4	4	4	4	4	4	4	6**	6**	6**	6**	8**	8**	8**
Q — Supply location	10	12	14	16	14	17	19	22	16	18	20	24	27	38	48
R — Supply height	56	56	56	56	63	63	63	63	75 1/2	75 1/2	75 1/2	75 1/2	83	83	83
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 1/2	7 1/2	7 1/2
Return size	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4
V — Safety valve location	18	20	22	24	22	27	29	32	28	30	32	36	45	56	66
W — Normal waterline	46	46	46	46	53	53	53	53	61	61	61	61	65	65	65
Y — Coil connection height - (Optional)	47	47	47	47	54	54	54	54	62	62	62	62	67	67	67
AA — Base length	33 1/2	39 1/2	45 1/2	51 1/2	45 1/2	53 1/2	61 1/2	70	59 1/2	67 1/2	75	82 1/2	125	146	166
BB — Base width	32 1/2	32 1/2	32 1/2	32 1/2	37	37	37	37	44	44	44	44	54	54	54
FF — Burner front to base	25	25	25	25	25	25	25	22 1/2	22 1/2	32 1/2	32 1/2	32 1/2	1 1/2	1 1/2	1 1/2
GG — Standard gas train to base	5	5	5	5	7	7	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	12	12	12
HH — Tube removal space	31 1/2	37 1/2	43 1/2	49 1/2	43 1/2	51 1/2	59	68	57 1/2	65 1/2	73	80 1/2	92	113	133

*Add for increased length for top outlet. See Dim. E

**150 lb. ANSI Flange

†Add GG for increased width on gas and gas-oil units



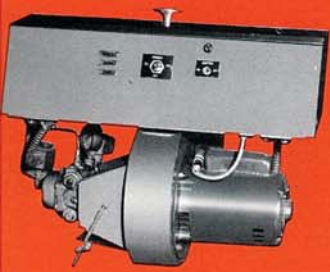
KEWANEE BOILER CORPORATION

101 FRANKLIN STREET
KEWANEE, ILLINOIS 61443

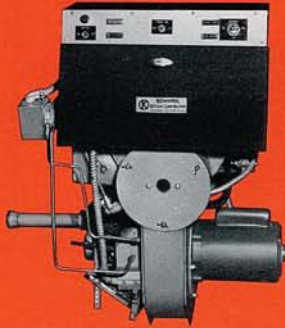
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KEWANEE®

Type "M" Package



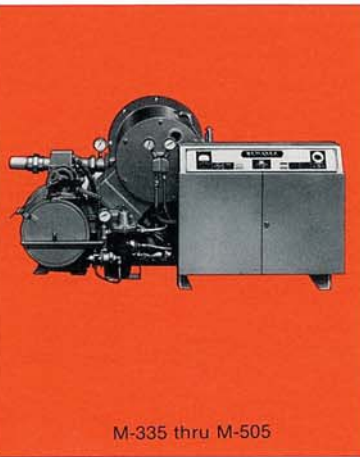
M-45 thru M-135



M-155 thru M-175



M-205 thru M-265



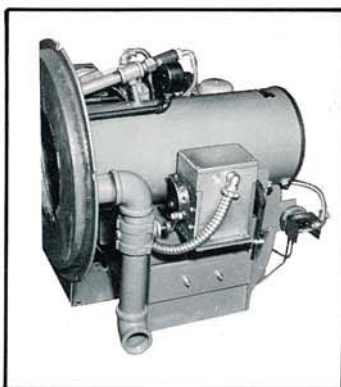
M-335 thru M-505

- U/L Listed.
- Kewanee Burners are available for oil, gas, or combination gas-oil firing. Each Kewanee Forced Draft Burner is custom engineered for the package it fires, assuring long, dependable and economical service.
- Control Cabinet features electronic Flame Safeguard and programming controls, color coded wiring, numbered terminal strip and console.
- M-45 thru M-265 units are equipped with Kewanee KF Burners. These units fire light oil (No. 2 CS12-48), gas and combination gas-light oil. Oil burners are of high pressure mechanical atomizing design and the gas burners are of the multiple jet flame retention type.
- M-335 thru M-505 units are equipped with either Pressure or Air atomizing burners. Pressure Atomizing units fire light oil, and combination gas-light oil. Air Atomizing units fire No. 5 or lighter oil, and combination gas-oil. Both pressure and air atomized units are of flame retention design.

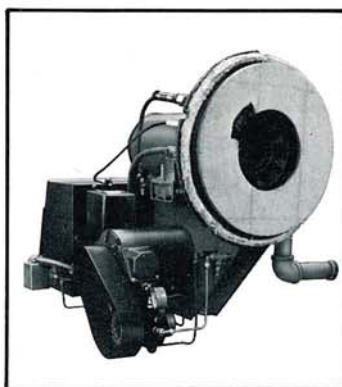
DATA																
UNIT NUMBER	M-45	M-55	M-65	M-75	M-95	M-115	M-135	M-155	M-175	M-205	M-235	M-265	M-335	M-425	M-505	
Gas Control — Size (Std. UL) in.	1	1¼	1¼	1½	1½	1½	2	2	2	2	2	2½	2½	2½	3	
— Req'd. Inlet Press. in. w.c.	5	5	5	5	5½	5½	5½	5½	6	6	6	6	6½	8	8	
— Identification No.	UL-C	UL-B	UL-B	UL-A	UL-A	UL-A	UL-1	UL-1	UL-1	UL-1	UL-1	UL-2	UL-2	UL-2	UL-3	
Motors — Forced Draft Fan — Gas HP	1/3	1/3	1/3	1/3	1/3	1/2	1/2	3/4	3/4	1	1	1½	2	3	5	
— Gas & P/A Oil HP																
— Gas & A/A Oil HP																
— Std. Voltage	← 115-60-1						← 230-60-3									
— Press. Atom. Oil Pump Set HP	← Direct Drive From Blower Motor						← Belt Drive From Blower Motor						1/2	1/4	1/2	
— Air Atomizing Comp. HP													1½	1½	1½	
— Std. Voltage													← 230-60-3			
— Air Atomizing Oil Pump Set HP													← 1/2			
— Std. Voltage													← 230-60-1			
Oil Heater — No. 4, 5 Oil watts													← 5000			
— Std. Voltage													← 230-60-1			
Control Circuit Voltage	←						← 115-60-1						←			
Fuel Air Control — Gas	←						← On-Off						← High Low w/Low Fire Start			
— No. 2 Oil	←						← On-Off w/L.F.S.						← High Low w/Low Fire Start			
— No. 4-5 Oil	←						←						← Modulating w/Low Fire Start			
Flame Safeguard — Gas & P/A Oil & Comb.	←						← R4795A Protector Relay						← R-4150			
— A/A Oil & Comb.	←						←						← R-4150			



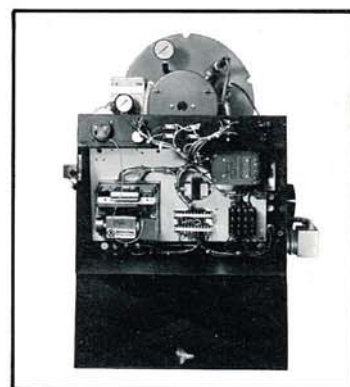
Cam-operated metering valve accurately controls the firing rate for all modulating burner units.



Delicate flame scanner is protected from heat by a special air-cooling system, another Kewanee development.



Cerafelt facing protects the gas manifold from refractory heat and reduces the temperature of the mounting plate.

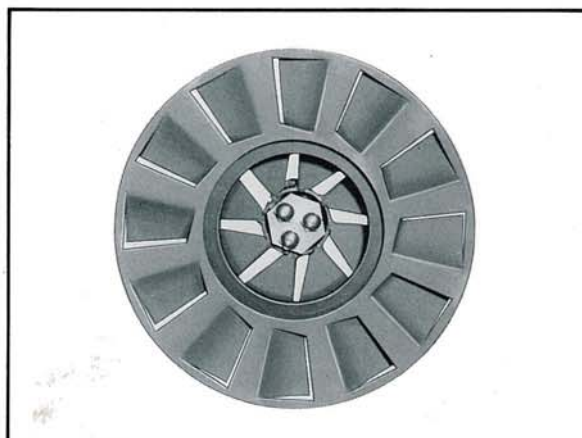


A typical control cabinet, where locking, dust-tight door encloses and protects controls. All color-coded circuits are easily accessible if adjustments are required.

Standard Kewanee gas train with plug gas cock, gas pressure regulator, automatic gas valve, independent automatic safety gas valve (over 1 million BTU/hr.), gas volume control valve and pressure gauge. Exceeds U.L. requirement.



Kewanee's special power-pack, easily removable as a single unit for servicing. Front-drive fan wheel and rear-drive oil pump are driven by same motor.



Double-action swirl-vane diffusers give better air/oil mixture. Special nozzle in center offers superior atomization, while inner zone and outer zone diffusion provides optimum combustion mixture.