

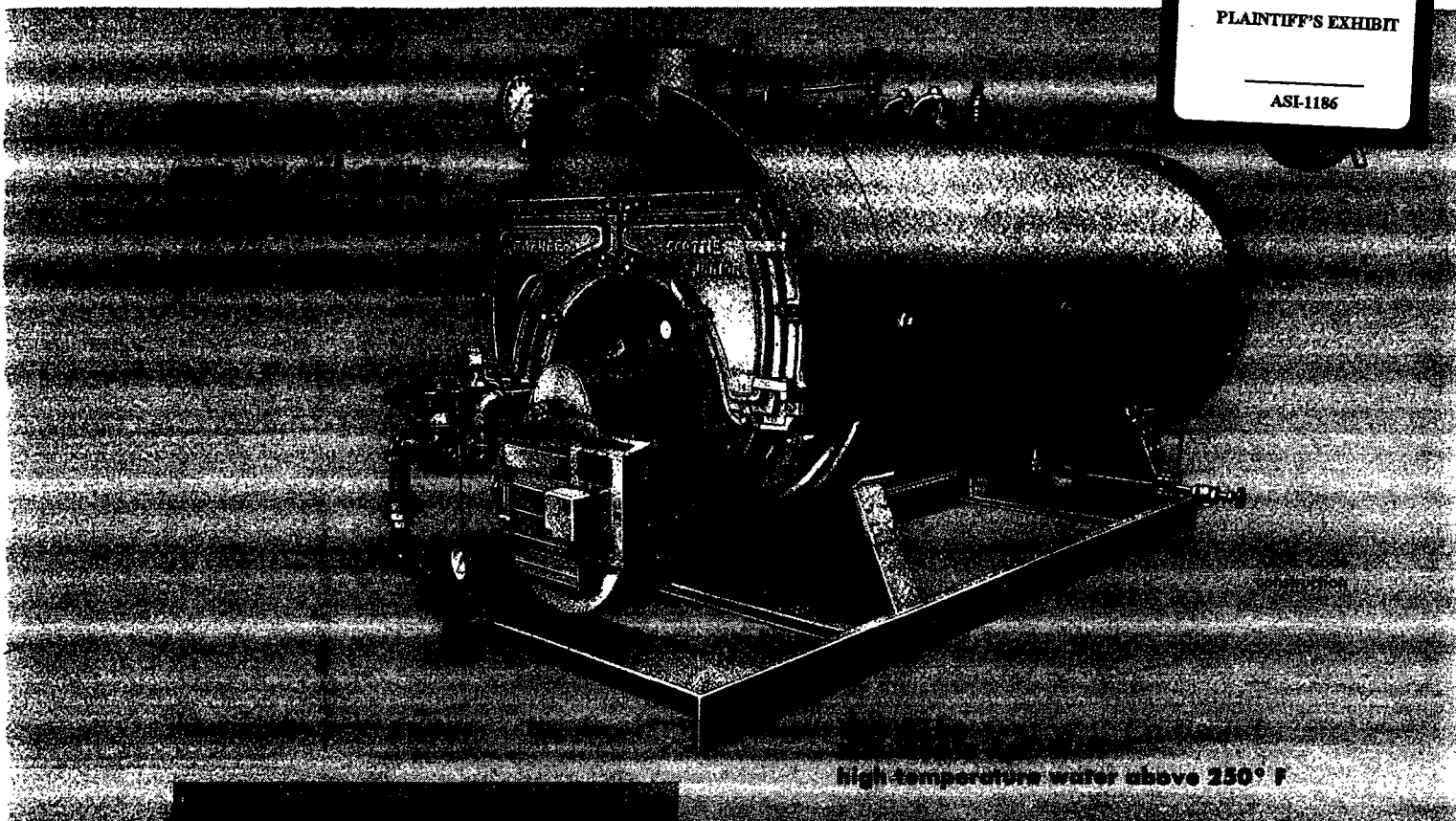
Kewanee Gordon-Piatt



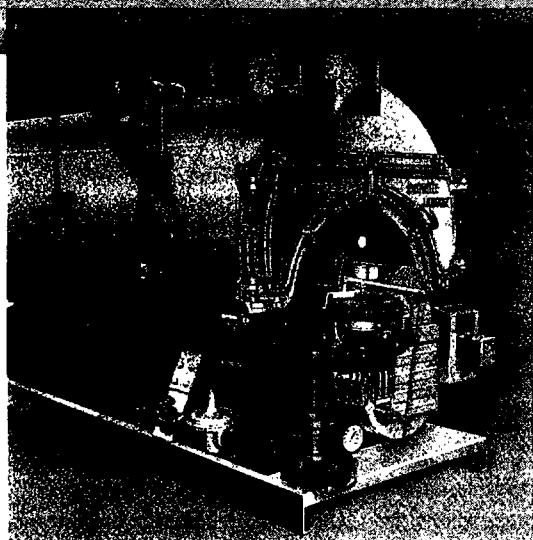
high pressure forced draft package units

PLAINTIFF'S EXHIBIT

ASI-1186



high temperature water above 250° F



Designed in eight convenient sizes for high pressure steam or high temperature water above 250° F. 125 and 150 lb. working pressure, 18 to 92 hp.

This is the reliable Kewanee Scottie Jr. Series combined with the Gordon-Piatt TURBO-RING burner for oil, gas or gas-oil operation.

Exceptionally compact, electronic combustion safeguard, sequencing relays, motor starting relays, switches, lights and fuses are mounted in a control panel, wired to a convenient terminal strip.

Automatic fuel changeover, quiet forced-draft operation at certified ratings without high stacks are but a few of the unit's outstanding features.

The boiler and burner are shipped separately to the job site providing a definite advantage since delivery can be timed to suit construction stages of the building . . . the boiler first for placement before walls or roof are completed . . . the burner with its more sensitive parts after construction is finished. Matched connections of boiler and burner makes assembly quick and easy.

See Page 5 for burner details.

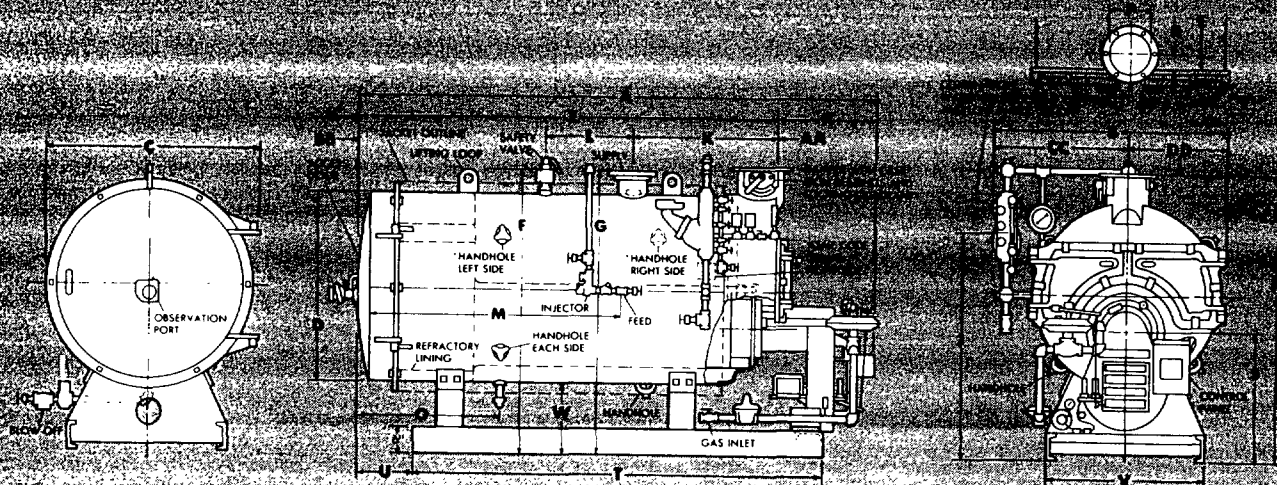
ratings

unit number	KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
*rating — horsepower	18	29	39	45	59	65	78	92
— MBtuh	606	967	1316	1530	1971	2191	2625	3091
— steam per hour — 212°F	lb 624	996	1356	1577	2031	2258	2705	3185
firing rate — No. 2 oil**	gph 5.4	8.6	11.7	13.6	17.5	19.5	23.4	27.5
— gas	MBtuh 757	1208	1645	1912	2463	2738	3281	3863
heating surface	sq ft 99	158	215	250	322	358	429	500
furnace volume — plain furnace	cu ft 16.9	21.4	29.6	32.0	47.9	50.8		
— corrugated furnace	cu ft						62.5	67.7
safety valve capacity	lb steam per hr 792	1264	1720	2000	2576	2864	3432	4000

*Certified output. **Based on 140,000 Btu oil

28467

high pressure forced draft package units • light oil, gas or oil-gas combination



NOTE: When selecting Package Unit, specify: (a) Unit Number, (b) Operating Pressure, (c) Type (steam or hot water), (d) Burner Model desired (oil, gas or oil-gas combination), (e) Gas type and pressure (available), consult local utility.

KGP-18 THRU KGP-45 REGISTERED
THESE HANDHOLES FURNISHED ON KGP-45 THRU KGP-92
ONLY

dimensions (feet—inches)

unit number	KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
A — length overall...	8-10	11-4	11-8	12-9	13-6	14-7	13-3½	14-6
B — width overall...	4-6	4-6	5-0	5-0	5-6	5-6	6-1	6-1
C — boiler — width...	4-0½	4-0½	4-6½	4-6½	5-0½	5-0½	5-5	5-5
D — — inside diameter...	3-6	3-6	4-0	4-0	4-6	4-6	5-0	5-0
E — — length...	7-1	9-7	10-1	11-2	11-11½	12-10½	11-7	12-10
F — lifting loop height...	5-4½	5-4½	5-10½	5-10½	6-5	6-5	6-10	6-10
G — steam supply height...	4-11½	4-11½	5-5½	5-5½	6-0	6-0	7-0	7-0
H — smoke outlet height...	5-6	5-6	5-11½	5-11½	6-5½	6-5½	7-1½	7-1½
J — water line height...	4-3	4-3	4-7½	4-7½	5-0½	5-0½	5-7½	5-7½
K — steam supply...	2-3	2-9	2-11	2-11	3-0	3-6	3-1	3-7
L — safety valve...	1-8	1-8	1-8	1-8	3-6	3-6	4-3	4-4
N — feed water, each side...	4-7½	6-7	6-11½	8-0½	6-11½	7-4½	6-6	7-1
O — blow-off...	2-8½	2-8½	3-0½	3-0½	3-4½	3-4½	4-0	4-0
P — smoke outlet — inside diameter...	0-10	0-10	1-1	1-1	1-2	1-2	1-4	1-4
R — — location...	0-4½	0-4½	0-5	0-5	0-5½	0-5½	0-5½	0-5½
S — furnace height...	2-5½	2-5½	2-6½	2-6½	2-10	2-10	3-1½	3-1½
T — base — length...	7-3½	9-9½	9-6½	10-10	11-4	12-3	10-8	11-10
U — — location...	0-11	0-11	1-3	1-3	1-6½	1-6½	1-6	1-6½
V — — width...	3-0	3-0	3-6	3-6	4-0	4-0	5-0	5-0
W — floor to boiler...	1-4	1-4	1-4	1-4	1-4	1-4	1-6	1-6
X — burner front to boiler...	1-9	1-9	1-7	1-7	1-6½	1-8½	1-8	1-8
Y — rear door clearance...	3-3	3-3	3-8	3-8	4-1	4-1		
AA — tube replacement space — front...	3-5½	5-11	5-9½	6-10½	7-2	8-1	6-11	8-1½
BB — — rear...	2-0	4-5½	4-2	5-3	5-3½	6-2½		
CC — width...	2-7½	2-7½	2-10½	2-10½	3-1½	3-1½	3-5	3-5
DD — width...	1-10½	1-10½	2-1½	2-1½	2-4½	2-4½	2-8	2-8

data

unit number	KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
vent diameter	10	10	13	13	14	14	16	16
steam supply size	2	2	2	2	3	3	4*	4*
blow-off size	1	1	1	1	1½	1½	2	2
feed water size	¾	¾	¾	¾	¾	¾	1¼	1¼
gas inlet...	1	1½	1½	1½	2	2	2	2½
**outside surface to cover	63	90	107	121	145	158	178	197
approximate weight — 125 lb wp.	4200	5160	6380	7130	9280	9820	12050	12780
— 150 lb wp.	4300	5260	6430	7180	9380	9970	12950	13380

*300 lb American Standard Flange.

**Front of boiler and smokebox NOT included.

Standard equipment — Boilers mounted on steel skids, gas-tight front steel smokebox with insulated cast iron gasketed flue doors. Factory installed rear combustion chamber. Hinged rear combustion chamber door with pyrex observation port on KGP-18 thru KGP-65; rear cover plate with access panel and pyrex observation port on KGP-78 and KGP-92. Spinner blades, quadrant lock damper, boiler lifting loops, and flue cleaner with handle. Manhole on KGP-59 thru KGP-92. Note: Refractory filled burner mounting plate furnished by burner manufacturer.

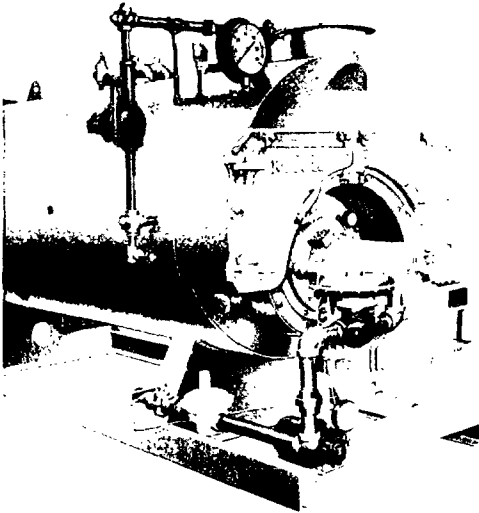
Standard steam trimmings — Safety valve(s); steam gage and cock; combination water column, pump control and low water cut-off with wheel operated gage and try cock assembly; blow-off valves; globe and check valves for boiler feed line; injector; iron piping and fittings attaching trimmings to boiler.

Standard water trimmings — Water relief valve(s), low water cut-off, blow-off valves, iron piping and fittings attaching trimmings to boiler.

Standard equipment subject to change without notice.

low pressure forced draft package units

light oil, gas or oil-gas combination



606,000 — 3,091,000 Btuh
15 lb steam
30 lb water 250° F maximum

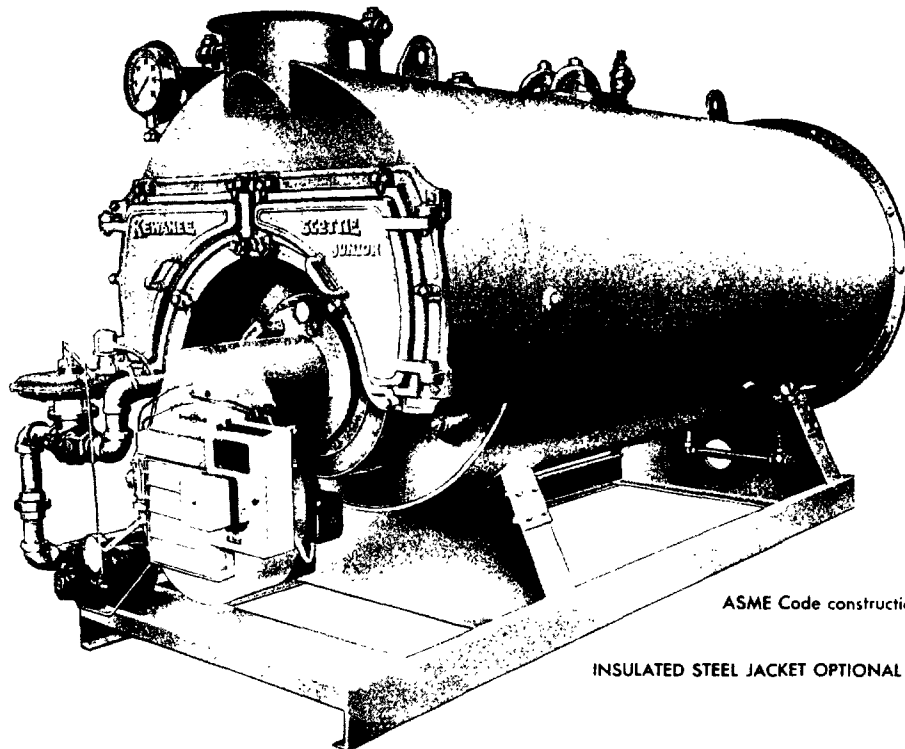


The perfectly matched combination of Kewanee Scottie Jr. and Gordon-Piatt TURBO-RING burner provides low pressure steam or hot water for heating at its automatic best.

Large capacities are packed into low, trim units which fit easily into today's compact buildings. Features include electronic combustion safeguard, sequencing relays, motor starting relays, switches, lights and fuses mounted in control panel and wired to convenient terminal strip. Fuel changeover is automatic, forced-draft operation is quiet and eliminates need for high stack.

Rapid, easy access is provided to all parts of the boiler for inspection and maintenance. The cast iron flue doors open quickly by releasing simple locking clamps, steel skids require no special setting.

Boiler and burner is shipped separately so that boiler can be delivered early in construction — burner later, when it can be fully protected against weather, accident or theft.



ASME Code construction

INSULATED STEEL JACKET OPTIONAL

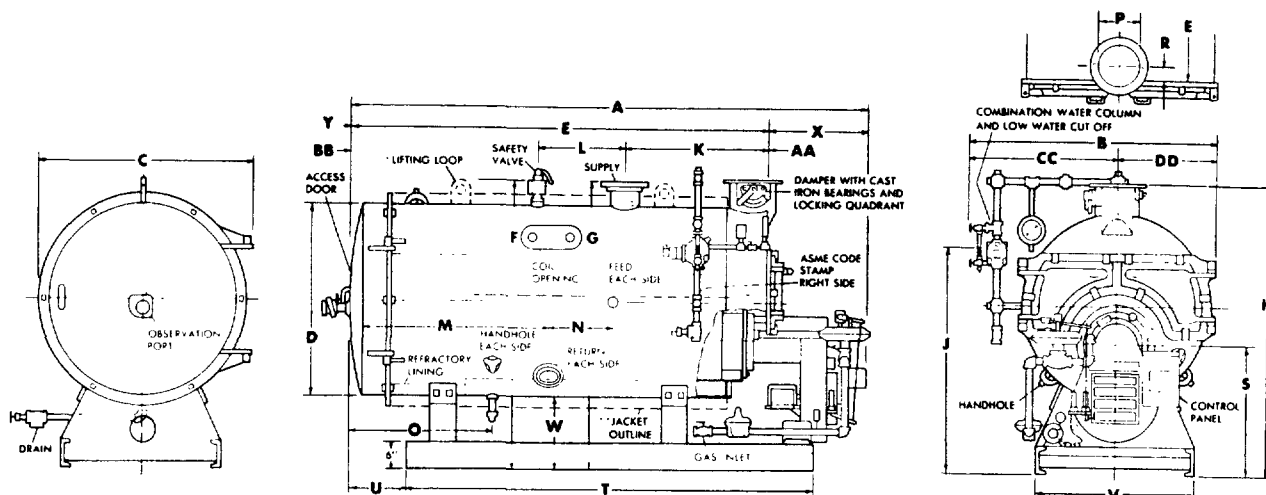
ratings

unit number		KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
*rating — steam	sq ft	2520	4030	5480	6370	8210	9130	10940	12880
— water	sq ft	4040	6450	8770	10200	13140	14610	17500	20610
— MBtuh		606	967	1316	1530	1971	2191	2625	3091
— steam per hour — 212°F	lb	624	996	1356	1577	2031	2258	2705	3185
firing rate — No. 2 oil**	gph	5.4	8.6	11.7	13.6	17.5	19.5	23.4	27.3
— gas	MBtuh	757	1208	1645	1912	2463	2738	3281	3863
heating surface	sq ft	99	158	215	250	322	358	429	500
furnace volume	cu ft	16.5	21.7	29.9	32.7	52.5	56.0	64.8	70.6
safety valve capacity	lb steam per hr	606	967	1316	1530	1969	2188	2625	3060

*Certified output. **Based on 140,000 Btu oil.

28469

low pressure forced draft package units • light oil, gas or oil-gas combination



NOTE: When selecting Package Unit, specify: (a) Unit Number, (b) Operating Pressure, (c) Type (steam or hot water), (d) Burner Model desired (oil, gas or oil-gas combination), (e) Gas (type and pressure available) consult local utility.

KGP-18 THRU KGP-45 ILLUSTRATED
MANHOLE ON KGP-59 THRU KGP-92.
*OPTIONAL

dimensions (feet—inches)

unit number	KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
A — length overall	8-6	11-0	11-4	12-5	13-3½	14-4½	13-3½	14-6
B — width overall	4-8	4-8	5-2	5-2	5-9	5-9	6-3	6-3
C — boiler — width	4-0½	4-0½	4-6½	4-6½	4-11	4-11	5-5	5-5
D — — inside diameter	3-6	3-6	4-0	4-0	4-6	4-6	5-0	5-0
E — — length	6-10½	9-4½	9-10½	10-11½	11-8½	12-7½	11-7	12-10
F — lifting loop height	5-4½	5-4½	5-10½	5-10½	6-5½	6-5½	6-10	6-10
G — steam supply height	4-11½	4-11½	5-10	5-10	6-7	6-7	7-0	7-0
H — smoke outlet height	5-6	5-6	5-11½	5-11½	6-8½	6-8½	7-1½	7-1½
J — water line height	4-2½	4-2½	4-7	4-7	5-3½	5-3½	5-8	5-8
K — steam supply	2-3	2-9	2-11	2-11	3-0	3-6	3-1	3-7
L — safety valve	1-8	1-8	1-8	1-8	5-4	5-9	5-2	5-10
M — return, each side	3-6½	3-8½	4-3½	4-3½	4-4	4-4	4-4	4-4
N — feed water, each side	2-8½	2-8½	3-0½	3-0½	4-0	4-0	4-0	4-0
O — drain	2-8½	2-8½	3-0½	3-0½	4-0	4-0	4-0	4-0
P — smoke outlet — inside diameter	0-10	0-10	1-1	1-1	1-2	1-2	1-4	1-4
R — — location	0-3½	0-3½	0-4	0-4	0-4½	0-4½	0-4½	0-4½
S — furnace height	2-5½	2-5½	2-6½	2-6½	3-1	3-1	3-1½	3-1½
T — base — length	7-3½	9-9½	9-6½	10-10	10-10	11-9	10-8	11-10
U — — location	0-7	0-7	0-11	0-11	1-6	1-6	1-6	1-6½
V — — width	3-0	3-0	3-6	3-6	4-6	4-6	5-0	5-0
W — floor to boiler	1-4	1-4	1-4	1-4	1-7	1-7	1-6	1-6
X — burner front to boiler	1-7½	1-7½	1-5½	1-5½	1-7	1-9	1-8	1-8
Y — rear door clearance	3-3	3-3	3-8	3-8	3-8	3-8	3-8	3-8
AA — tube replacement space — front	3-3	5-9	5-7	6-8	7-2	8-1	6-11	8-1½
BB — — rear	1-10	4-3½	4-0	5-1	5-1	5-1	5-1	5-1
CC — width	2-9½	2-9½	3-0½	3-0½	3-4½	3-4½	3-7	3-7
DD — width	1-10½	1-10½	2-1½	2-1½	2-4½	2-4½	2-8	2-8

data

unit number	KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
vent diameter	10	10	13	13	14	14	16	16
steam supply size	4	4	6*	6*	6*	6*	8*	8*
return size (two)	4	4	4	4	4	4	4	4
drain size	1½	1½	1½	1½	1½	1½	2	2
feed water size	1	1¼	1½	1½	1½	1½	1¼	1¼
gas inlet	1	1¼	1½	1½	2	2	2	2½
**outside surface to cover	61	88	105	119	165	180	180	200
approximate weight	3450	4060	5530	6130	8030	8870	9500	10330

*150 lb American Standard Flange.

**Front of boiler and smokebox NOT included.

Standard equipment — Boilers mounted on steel skids; gas-tight front steel smokebox with insulated cast iron gasketed flue doors. Factory installed rear combustion chamber. Hinged rear combustion chamber door with pyrex observation port. KGP-18 thru KGP-45; rear cover plate with access panel and pyrex observation port. KGP-59 thru KGP-92. Spinner blades. Quadrant lock damper. Flue cleaner with handle. Manhole KGP-59 thru KGP-92. Note: Refractory filled burner mounting plate furnished by burner manufacturer.

Standard steam trimmings — Safety valve(s), steam gage and cock, combination water column, water gage and low water cut-off. Angle drain valve. Iron piping and fittings attaching these trimmings to boiler.

Standard water trimmings — Water relief valve(s), pressure gage, thermometer, low water cut-off, iron piping and fittings attaching these trimmings to boiler. Angle drain valve.

Standard equipment subject to change without notice.

28470

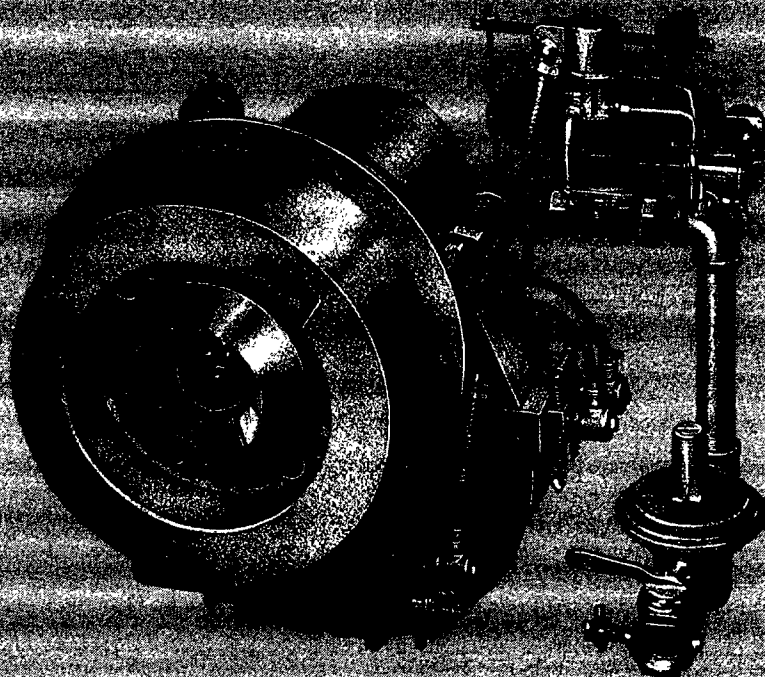


Gordon Piatt

high or low pressure • forced draft package units

burner data

- fuel chamber over 1/2 inch of burner
- standard motor—1750 rpm
- constant burning gas pilot with 100% efficiency
- front plate with refractory
- remote oil pump set (does not run when on gas operation)
- two stage oil lighting (above 13 gph)
- lifted by 1/2 inch of burner
- control panel with switches and indicator lights and manual stop
- easily converted (from gas or oil burner to gas-oil)



TURBO-KING forced draft oil, gas or oil-gas burner

boiler burner unit	input		blower motor		gas control pipe size	burner no.
	Mbtuh gas	gph oil	hp	volt		gas—FGR oil—FGRO oil—FRO
KGP-18	757	5.4	1/4	115	1"	1-10-02
KGP-29	1208	8.6	1/4	115	1 1/4"	1-12-02
KGP-39	1645	11.7	1/2	115	1 1/2"	1-15-03
KGP-45	1912	13.6	1/2	115	1 1/2"	1-15-03
KGP-59	2463	17.5	1/2	115/230	2"	1-20-05
KGP-65	2738	19.5	1/2	115/230	2"	2-20-05
KGP-78	3281	23.4	3/4	115/230	2"	2-20-07
KGP-92	3863	27.5	3/4	115/230	2 1/2"	2-25-07

control system assembly	description of control systems available	
B	on-off control of both gas and oil	
C	on-off control of both gas and oil, pre and post purge fan operation	
D	pre and post purge fan operation, modulating control of gas (B55G), hi-low-off control of oil	
E	pre and post purge fan operation, modulating control of gas (M904E motor and butterfly valve), hi-low-off control of oil with low fire oil start	

Note: Control size based on 6" W.C. gas pressure at inlet of controls.

when selecting, specify:

1. boiler-burner unit size
2. operating pressure
3. type (steam or water)
4. type fuel desired (gas) (gas-oil) (oil-future gas)
5. control system desired
6. current characteristics
7. additional equipment if desired a. manual reset safety valve b. thermostat c. low water cutoff & feeder

standard equipment — burner

burner number	gas*	oil-gas	oil
	FGR	FGRO	FRO
blower motor and f.d. fan	x	x	x
front plate with refractory	x	x	x
control panel, switches & sig lts.	x	x	x
electronic flame safety control	x	x	x
gas manifold with brass orifices	x	x	
air flow safety switch	x	x	x
inlet air louver	x	x	x
primary air adjustment	x	x	x
pressure or temperature limit control	x	x	x
pressure or temperature operating control	x	x	x
motor relay or magnetic starter	x	x	x
diaphragm gas valve	x	x	
manual gas shut-off valve	x	x	
gas pressure regulator	x	x	
pilot cock and tubing	x	x	
pilot solenoid valve	x	x	
pilot gas pressure regulator	x	x	
safety pilot burner	x	x	
6000V ignition transformer	x	x	
gas pressure gage	x	x	
fuel transfer switch		x	
oil pump set		x	x
oil solenoid valve(s)		x	x
10,000V ignition transformer		x	x
oil photocell		x	x
oil filter and gage		x	x

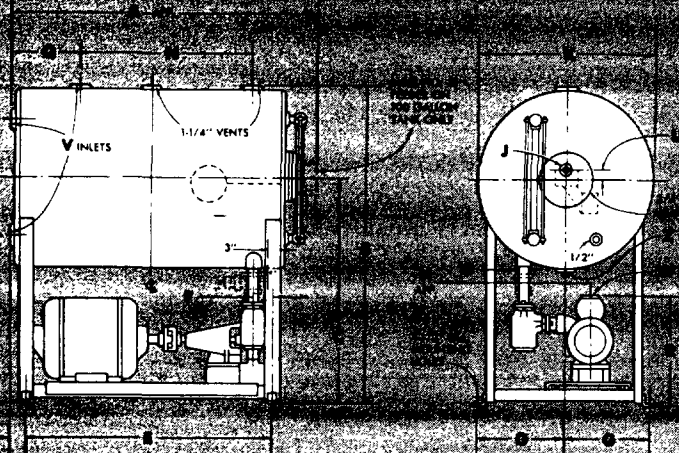
*Standard controls furnished for natural gas at 6" pressure. Controls available for other types of gas and other gas pressures.

forced draft package units • light oil, gas or oil-gas combination

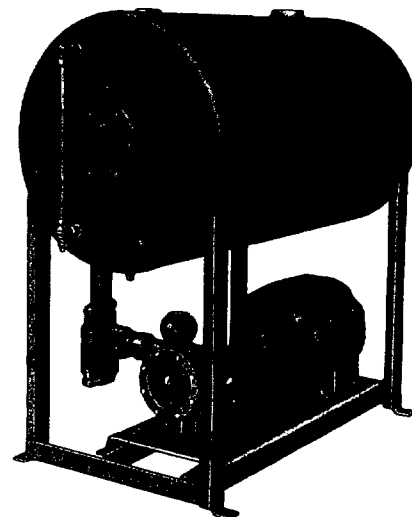
simplex or duplex units

installation at the most convenient location in the plant

Fig. 1—Simplex Unit



sizes for 15, 125, 150 swp



simplex or duplex units

The simplex unit is illustrated. Duplex unit consists of two pumps and two motors mounted on a single chassis with the tank. Duplex units are often advisable for stand-by purposes or with a battery of two boilers; each boiler supplied by a separate pump.

boiler feed units (dimensions—inches)

unit	A	B	C	D	E	F	G	H	J	K	L	N	O	Q	R	U	V	X	Z
KXB	30	38 1/2	30	34 1/2	22	1 1/4	8 3/4	1 1/2	1/2	16	4 1/2	19	1	3 1/2	13 1/4	1 1/2	1 1/2	2	1/2
KXC	37 1/2	39 1/2	30	36 3/4	29 1/2	3 3/4	9 1/2	2 1/2	1/2	18	6 3/4	26 1/2	1	3 1/2	13 3/4	1 1/2	2	2	1/2
KXE	42	60	47 3/4	55 1/2	33	3 3/4	11 1/4	3 1/2	3/4	22 1/2	7 3/4	23	1 1/2	9 1/2	14 3/4	1 1/2	2 1/2	2 1/2	1
KXF	46	78	63 1/2	73 3/4	36	4 1/2	14	5	3/4	27	10 1/4	28	1 1/2	9	18 1/4	—	3	3	1 1/4

pump number	W
103-105, 028, 1022, 1023	1
141, 1128-1133	1
1251	1 1/4

specifications and catalog numbers

unit number		KGP-18	KGP-29	KGP-39	KGP-45	KGP-59	KGP-65	KGP-78	KGP-92
boiler feed unit number	15 swp	KXB-75	KXC-75	KXC-75	KXE-20	KXE-20	KXE-24	KXF-20	KXF-20
gpm — max 195° F....		3.7	6.0	8.1	9.3	12.2	13.5	12.6	12.6
pump number....		103	104	104	105	105	028	141	141
motor size hp — rpm		1/4-1750	1/4-1750	1/4-1750	1/2-1750	1/2-1750	1/2-1750	1/2-1750	1/2-1750
tank capacity gal		20	35	35	60	60	60	100	100
shipping weight, lb		200	230	230	275	275	275	550	550
boiler feed unit number	125 swp	KXB-73	KXC-89	KXC-89	KXE-10	KXE-11	KXE-11	KXF-11	KXF-11
gpm — max 195° F....		3.5	6.2	6.8	7.6	9.0	10.0	10.5	12.6
pump number....		1022-8	1023	1023	1130	1131	1131	1133	1133
motor size hp — rpm		1 1/2-3500	1 1/2-3500	1 1/2-3500	2-3500	2-3500	2-3500	3-3500	3-3500
tank capacity gal		20	35	35	60	60	60	100	100
shipping weight, lb		270	310	310	450	450	450	650	650
boiler feed unit number	150 swp	KXB-74	KXC-73	KXC-73	KXE-12	KXE-12	KXE-12	KXF-11	KXF-21
gpm — max 195° F....		3.5	6.2	6.8	7.6	9.0	10.0	10.5	12.6
pump number....		1128	1130	1130	1131	1131	1131	1133	1251
motor size hp — rpm		1 1/2-3500	2-3500	2-3500	3-3500	3-3500	3-3500	3-3500	5-3500
tank capacity gal		20	35	35	60	60	60	100	100
shipping weight, lb		285	320	320	450	450	450	650	750



AMERICAN-Standard

KEWANEE BOILER DIVISION

101 FRANKLIN STREET, KEWANEE, ILLINOIS