



IRON FIREMAN®

Models PAO & PAGO

6.3 thru 15 Pressure Atomizing Oil and Gas Combination Burners

Features

The Press type PAO and PAGO Forced Draft modulating Oil and Gas-Oil Burners are complete fuel burning systems: factory assembled, wired and fire tested. Each unit includes a burner, forced draft blower and a totally enclosed electrical control panel which contains a sensitive programming electronic combustion safety control plus motor starter, pilot lights, combustion air flow proving switch, etc.

These packaged units may be readily applied to all types of boilers of high or low pressure, including Scotch Marine, by bolting the burner assembly to the boiler front. Refractory work is usually minor. Precisely directed air from the blower whirls the oil droplet-fog mixing it so thoroughly that a refractory combustion chamber is not normally required to obtain efficient combustion.

Combustion is highly efficient in boilers having either positive or negative draft in the combustion chamber. Firing head mixes air

and fuel instantly with a resultant short clean flame and complete combustion.

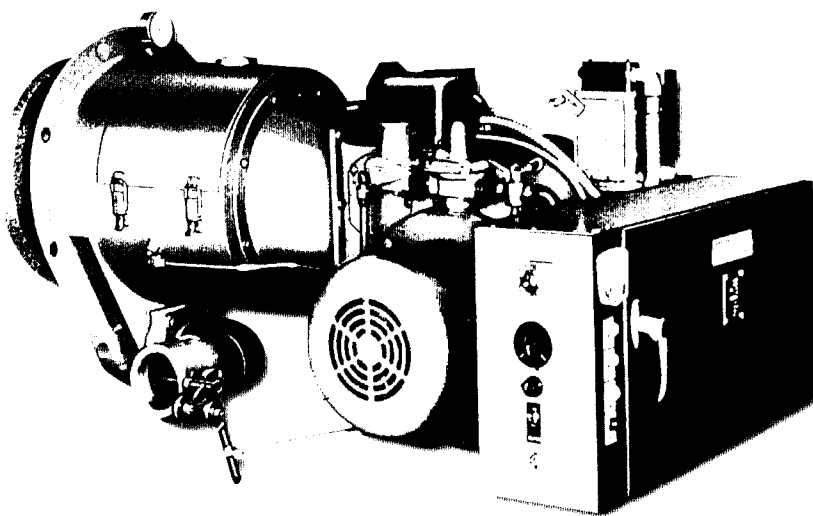
Eliminates need for draft-producing stack or induced draft fan. Burner blower has sufficient capacity to provide air flow through burner head and overcome frictional resistance of most boiler designs.

No draft controls are necessary in stub stacks. Barometric dampers only are required in stacks from 40 feet high to 80 feet high. Motorized stack dampers are recommended in stacks exceeding 80 feet in height.

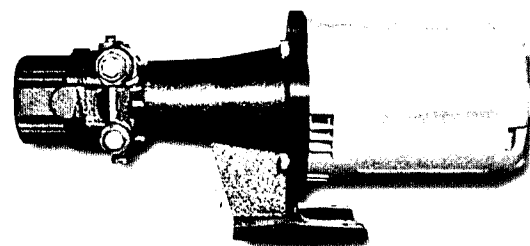
Provides modulation over wide firing range.

Provides operation in conventional boilers by permitting installation through fire door with refractory floor at mud-ring level.

Reduces 'stand-by' loss to negligible amount.

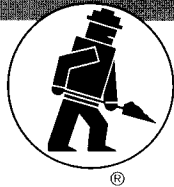


6.3, 9.8 and 15 Burners



Oil Pump Set for 6.3, 9.8 and 15 Burners





IRON FIREMAN®

Models PAO, PAGO (6.3 thru 15) Pressure Atomizing Oil and Gas Combination Burners

Specifications

PAO Forced Draft Pressure Atomizing Burners

Burner Model Number	**** Max. Firing Rate		Ins. Opt.	Burner Motor H.P.		Elec. Oil Heater KW	Electronic Combustion Control	Approx. Shipping Weight Pounds
	Gas	Oil		Fan	Pump			
PAO-2-6.3	45		U.L.	5	3/4	—	FIREYE E-100	600
PAO-2-9.8	70			7-1/2	1	—		650
PAO-2-15	100			15	1-1/2	—		750
PAO-2-6.3	45		F.M.	5	3/4	—	FIREYE E-110	600
PAO-2-9.8	70			7-1/2	1	—		650
PAO-2-15	100			15	1-1/2	—		750
PAO-2-6.3	45		IRI	5	3/4	—		600
PAO-2-9.8	70			7-1/2	1	—		650
PAO-2-15	100			15	1-1/2	—		750

PAGO Forced Draft Pressure Atomizing Burners

Burner Model Number	**** Max. Firing Rate		Ins. Opt.	Burner Motor H.P.		Elec. Oil Heater KW	Gas Piping Group		Electronic Combustion Control	Approx. Shipping Weight Pounds
	Gas	Oil		Fan	Pump		I.P.S.	Min. ** W.C. Press.		
	MBh	Gph								
PAGO-2-6.3	6,300	45	U.L.	5	3/4	—	3	8.0	FIREYE E-110	850
PAGO-2-9.8	9,800	70		7-1/2	1	—	3	10.5		880
PAGO-2-15	15,000	100		15	1-1/2	—	3-4	9.0		1010
PAGO-2-6.3	6,300	45	F.M.	5	3/4	—	3	7.0	E-110	860
PAGO-2-9.8	9,800	70		7-1/2	1	—	3	8.0		890
PAGO-2-15	15,000	100		15	1-1/2	—	3-4	8.5		1020
PAGO-2-6.3	6,300	45	IRI	5	3/4	—	3	7.5	E-110	900
PAGO-2-9.8	9,800	70		7-1/2	1	—	3	10.0		930
PAGO-2-15	15,000	100		15	1-1/2	—	3	9.0		1060

Catalog information subject to change without notice. **NOTE:** Asterisk explanation on next page.

Standard Equipment – Type PAO and PAGO Pressure Atomizing Burners

Burner

Forced Draft Fan w/motor
Full Modulation
Gas Electric Ignition (interrupted)
Gas Pressure Regulator for Pilot
Gas Shut-off Valve for Pilot, Manual
Gas Solenoid Valve for Pilot
Housing Complete with Access
Low Fire Start Proving Switch
Modutrol Motor and Linkage
Flame Observation Port
Open Damper Pre-Purge

Control Panel (Cabinet)

30" L x 13-3/8" H x 6-3/4" D
Totally Enclosed and Factory Mounted and Wired

Control Circuit Fuse
Combustion Air Proving Switch
Control Circuit Transformer, 115V.
Electronic Combustion Control - Non Recycling
Lights: Pilot, Main Fuel(s), & Lockout
Manual On-Off Switch
Manual Fuel Changeover Switch (Gas/Oil Models)
Manual Potentiometer
Pre-Purge
Post-Purge
Starter for Fan Motor
Starter for Oil Pump Motor
Terminal Strips and Wiring

Oil Firing Units

Metering Valve
Suction Strainer
Nozzle
Pressure Regulating Valve
Dual Main Oil Solenoid Valves
Return Line Check Valve
Separate Oil Pump Set
Low Oil Pressure Switch

Gas Firing Units

Gas Volume Control Valve
Main Auto Gas Valve(s)
Main Press. Regulator
Main Manual Shut-off Valves
High Gas Pressure Switch
Low Gas Pressure Switch

Miscellaneous (All Burners)

Modulating Control (Price Add)

Electrical

Motors are 230v, 60cy, 30Phase
Controls are 115v, 60cy, 1-Phase
3-Phase (208 and 460v, 60cy,
3-Phase available at no charge)

NOTE: Modulation rate is approximately 3 to 1.

Suggested Specifications For Iron Fireman (PAO & PAGO - 2.1, - 4.5, - 6.3, - 9.8 & 15) Gas/Oil Packaged Burner

Furnish and install as shown on plans _____ Iron Fireman packaged combination gas/No. 2 oil burner(s), Model Number _____. Each burner shall be capable of burning _____ CFH of _____ BTU/cu. ft. (Natural) (LP) (Manufactured) gas at a specific gravity of _____ inches water column and a maximum of _____ inches at the inlet to the burner's gas piping group; and _____ gph of No. _____ fuel oil.

Electric power supply will be available in the boiler room at _____ volts, 60 hertz, _____ phase. The blower motor to be no smaller than _____ horsepower and 3450 RPM. The blower assembly to have capacity to supply all combustion air required and also have adequate capacity to fire against a positive furnace pressure of _____ inches water column.

The complete modulating burner(s) shall be listed with Underwriter's Laboratories and be the forced draft type, factory assembled, wired, and factory firetested. Equipment to include direct driven blower that supplies combustion air and forces products of combustion thru the boiler and stack; totally enclosed, hinged, 14 gauge metal electrical control cabinet; containing a Fireye Model _____ electronic combustion safeguard control system with integral timer to provide the necessary timings of pre-purge, trial for ignition, trial for main flame, and post-purge in accordance with the insurance requirements of _____; motor starters with overload heaters for fan motor and oil pump motor; control circuit reducing transformer to 115 volts; manual on-off switch with marked positions; manual fuel changeover switch with marked positions; numbered terminal strips; separate oil and gas indicating signal lights; ignition light; flame failure light; control circuit fuse; modulating motor transformer; manual fire limiting potentiometer; combustion air flow safety switch of the differential pressure sensing type for dependability; flame observation port; internal access; and modulating motor with low fire proving switch and linkage.

Upon interruption of electrical power, the burner shall recycle before fuel valve(s) opens; and upon flame failure, the electronic combustion control shall lockout and require manual reset. Burner motor shall not run during "lockout" condition.

The main fuel oil or gas is to be ignited by an internal gas pilot that includes a 6000 volt secondary transformer, manual gas cock, gas pressure regulator, and solenoid valve. Ignition to be of the interrupted type.

Gas burning equipment shall include a completely piped gas train, including manual gas cock, gas pressure regulator, motorized gas valve and safety gas solenoid valve. The iron pipe size shall be not less than _____ inches.

The oil pump equipment furnished with the 6.3, 9.8 and 15 burners is a remote mounted, direct motor driven single-stage pump. Oil pump motor shall not be less than _____ horsepower and 1750 RPM.

The oil burner equipment shall include an oil suction strainer, oil metering valve, high pressure return flow oil nozzle with integral strainer, oil solenoid valve and check valves.

New Operating, High Limit, and modulating controls are to be furnished by the burner supplier. The controls shall be suitable for _____ psi steam (or _____ °F. water temperature).

Each control cabinet shall contain a wiring diagram, installation, operating maintenance, service instructions, and replacement parts manual; factory firetest report indicating actual factory firetest results; input, CO₂, smoke reading, pressure readings, and flame signal.

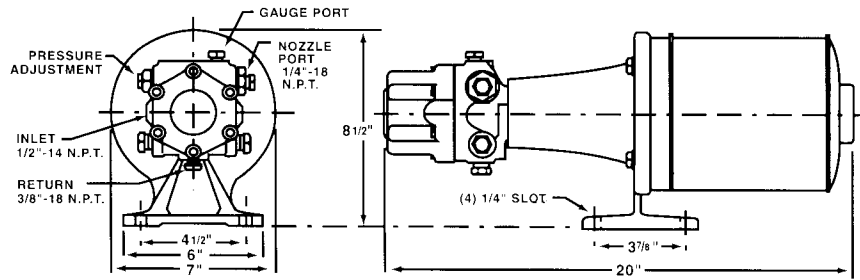
Asterisk Explanation for Previous Page

** Minimum gas pressure at burner's gas piping group inlet at zero furnace pressure and at burners maximum firing rate. (Maximum gas inlet pressure to pipe group is 14 in. W.C.) Consult factory for optional gas pipe groups for other gas pressures.

CAUTION: Add furnace pressure to arrive at total gas pressure required.

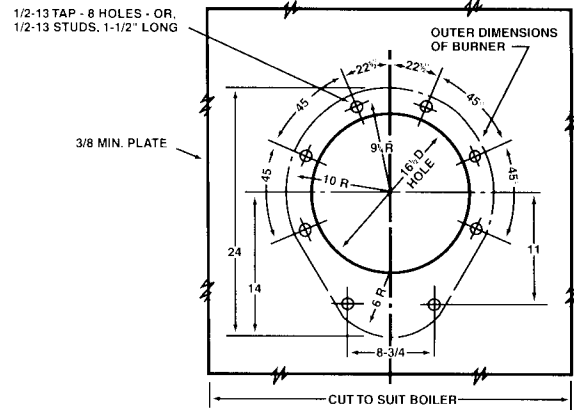
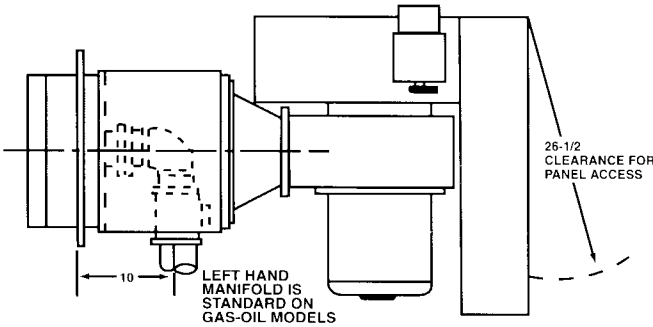
**** Maximum firing rates are based upon test results at 1500 ft. elevation with combustion air at 70° F against 2" on 6.3 and 9.8, and 3" on 15 burners. Capacities may vary dependent upon elevation and air temperature, and combustion chamber configuration, dimensions, etc.

Dimensions-Inches (general)

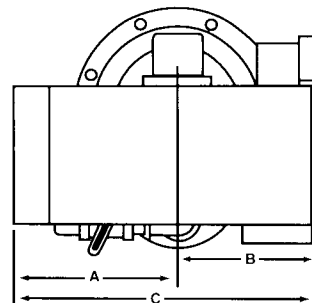
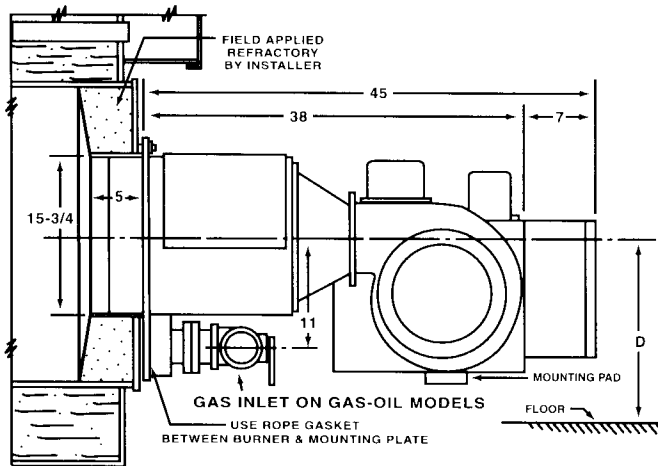


Oil Pump Set for 6.3, 9.8 and 15 Burners

6.3, 9.8, and 15 Burner



6.3, 9.8 and 15
Details for Mounting Plate
(Plate not furnished as standard equipment)



DIM.	6.3-9.8 BURNER	15 BURNER
A	17"	20"
B	14"	17 1/2"
C	31"	37 1/2"
D	18"	20"



IRON FIREMAN®

551 S. County Line Rd. • Franklin Park, IL 60131-1013 • Ph: 630.694.5500
Fax: 630.694.2230 • www.vaporpower.com • www.ironfireman.com

Form No. 80-2007E
Printed in U.S.A.
6/03