

FP SERIES

TECHNICAL DATA INFORMATION PACKET

**INDUSTRIAL
COMBUSTION**

FP Series Technical Data Sheet

UL listed with choice of
CSD-1, GAP, and FM for
U.S. units

Uncontrolled Emissions Configuration

.5 - 4.2 MM BTU/H NG; 3.9 - 30.0 GPH #2 OIL

Standard equipment:	Fuel options:
3450 RPM motor, panel signal lights (Power On, Main Fuel, Ignition, Flame Failure), 120/1/60 control circuit, combustion air proving switch burner mounted panel with standard or inverted configuration. Gas and gas/oil units only: two gas shutoff cocks, one main gas regulator, shipped loose gas train.	<p>Main Fuel: Natural gas (FPG), #2 oil - pressure atomized (FPL) or Combination gas/ #2 oil - pressure atomized (FPLG).</p> <p>Igniter Fuel: Natural gas and/or propane.</p> <p>Fuel changeover switch: Combination gas/oil units only (FPLG).</p>

Series Features

◇ Optional Feature



Feature	FP-5 to FP-7	FP-8 to FP-12	FP-14 to FP-25	FP-28 to FP-42
Flame Safeguard				
UV Scanner	•	•	•	•
Mode of Operation				
On-Off Firing	•			
Low-High-Off Firing	◇	•	•	◇
Full Modulation Firing	◇	◇	◇	•
Auto-Manual Firing Rate Control	• ¹	• ¹	• ¹	•
Ignition				
Gas/Electric Pilot and Ignition Transformer	•	•	•	•
Direct Spark (FPL)	•	•	•	•
Dual Ignition (FPLG)	◇	◇	◇	◇
Oil Components				
Directly Driven Oil Pump Set	•	•	•	•
Simplex Oil Nozzle (2)	• ²	• ²	• ²	• ²
2-Way Solenoid Valve (2)	•	•	•	•
2-Way Motorized POC (2)	◇	◇	◇	◇
Oil Metering Valve	• ¹	• ¹	• ¹	• ¹
Hydraulic Oil Cylinder	• ³	• ³	• ³	
Gas Components				
High & Low Gas Pressure Interlocks	◇	◇	◇	•
Diaphragm Valve & Solenoid Valve	•			
Motorized Valve & Solenoid Valve	◇	•	•	•
Motorized Valve w/POC & Solenoid Valve	◇	◇	◇	◇
Motorized Valve w/POC & Motorized Valve	◇	◇	◇	◇

¹ Standard for full modulation

² One simplex oil nozzle is standard for sizes 5-12, two simplex oil nozzles are standard for sizes 14-42

³ Standard for low-high-off/low modulation

FP Series

Standard Ratings Sheet

	Gas Input MBH	Oil Input GPH	BHP @ 80% Eff.	Blower Motor HP	Furnace Pressure ("w.c.)	Standard Gas Train Pipe Size (in.)	Min. Gas Pressure ("w.c.)
Model No. & Frame Size							
FP-5-1	550	3.9	13	3/4	.75	1	3.1
FP-7-1	700	5.0	17	3/4	.75	1	4.8
FP-8-2	800	5.7	19	3/4	.75	1	4.7
FP-9-2	900	6.4	21	3/4	.75	1	5.9
FP-11-2	1,100	7.9	26	3/4	.75	1	7.9
FP-12-2	1,200	8.6	29	3/4	.75	1	9.0
FP-14-3	1,400	10.0	33	3/4	.75	1	6.0
FP-17-3	1,700	12.0	40	3/4	.75	1 1/2	6.4
FP-20-3	2,100	14.5	50	3/4	.75	1 1/2	9.0
FP-25-4	2,490	18.0	60	1	.75	1 1/2	9.6
FP-28-4	2,940	21.0	70	1	.75	1 1/2	14.2
FP-36-4	3,600	25.0	86	2	.75	1 1/2	21.1
FP-42-4	4,200	30.0	100	3	.75	2	10.6

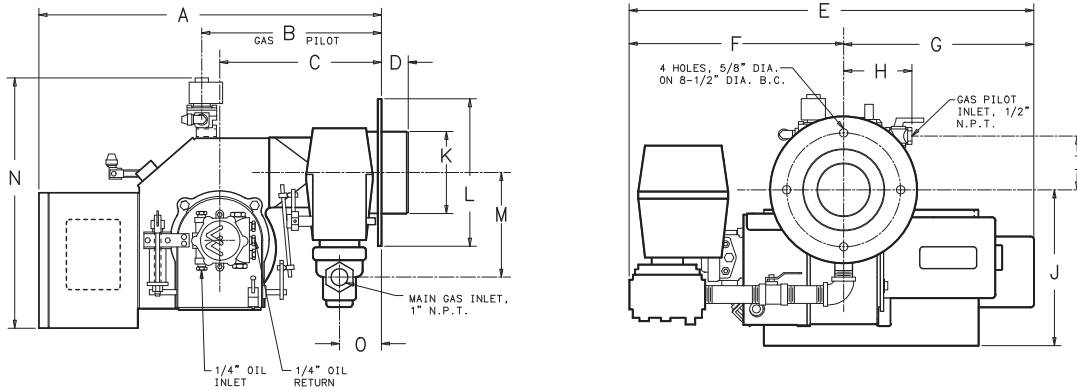
115 / 208 / 230 / 1

208 / 230 / 1

Input is based on fuel BTU content, listed furnace pressure and altitude of 2,000 feet or less. If altitude > 2,000 feet and < 8,000 feet, derate capacity 4% per 1,000 feet over 2,000. Consult factory for higher altitudes. If furnace pressure exceeds listed value, derate capacity 5% for every 0.5" w.c. of pressure in excess of stated. Consult factory if derate exceeds 20%. Gas input is based on natural gas with 1,000 BTU/cu.ft., 0.60 gravity, 0" w.c. furnace pressure and the aforementioned conditions. For total pressure at manifold, add furnace pressure. Oil input based on 140,000 BTU/gal and the aforementioned conditions. Consult factory for 50 Hz. applications.

FP Series

Standard Dimension Sheet



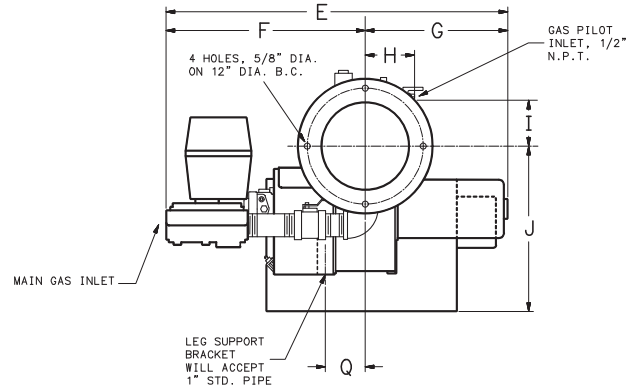
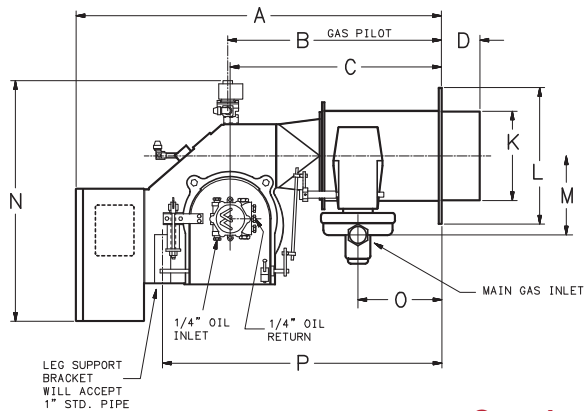
Standard Configuration

DIM	Burner Frame Size		
	Size 1	Size 2	
Length in inches			
Overall length	A	25 7/8	27 1/4
Width in inches			
Overall width	E	29 3/4	30 1/4
Center line to left side	F	16	16
Center line to right side	G	13 3/4	14 1/4
Height in inches			
Overall height	N	18 5/8	20 1/8
Center line to bottom	J	11 5/8	12 1/4
Blast tube dimensions in inches			
Extension	D	2	2
Diameter	K	6 1/8	6 1/8
Mounting flange dimensions in inches			
Diameter	L	11	11
Gas inlet in inches			
Center line to main gas inlet	M	8	8
Mounting flange to main gas inlet	O	3 1/8	3 1/8
Gas pilot in inches			
Mounting flange to gas pilot	B	12 3/8	12 3/8
Center line to gas pilot inlet (width)	H	4 1/2	4 1/2
Center line to gas pilot inlet (height)	I	4 3/8	4 9/16
Oil pump in inches			
Mounting flange to oil pump	C	9 7/8	10 1/4

Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for construction.

FP Series

Standard Dimension Sheet



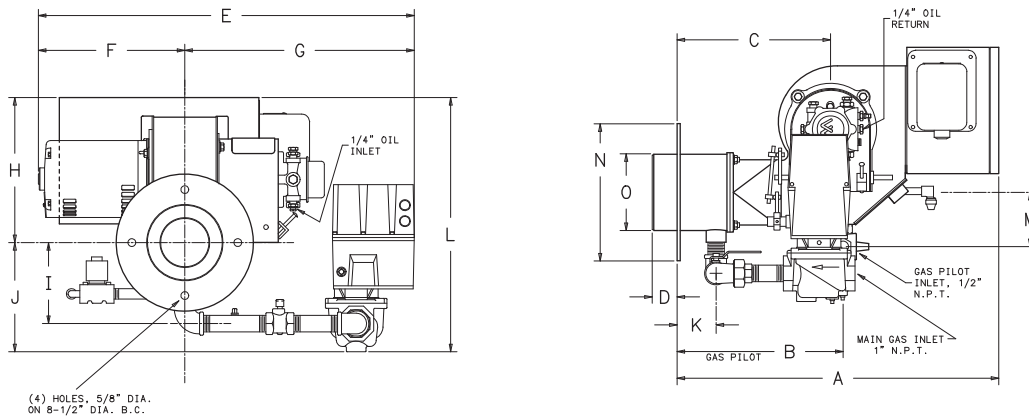
Standard Configuration

	DIM	Burner Frame Size	
		Size 3	Size 4
Length in inches			
Overall length	A	35	37 7/8
Width in inches			
Overall width	E	32 3/8	35 1/2
Center line to left side	F	18 1/8	20 5/8
Center line to right side	G	14 1/4	14 7/8
Height in inches			
Overall height	N	21 1/8	24 5/8
Center line to bottom	J	16 1/4	16 9/16
Blast tube dimensions in inches			
Extension	D	3 15/16	3 15/16
Diameter	K	8 1/4	9 1/4
Mounting flange dimensions in inches			
Diameter	L	14	14
Gas inlet in inches			
Center line to main gas inlet	M	8 3/8	8 3/8
Mounting flange to main gas inlet	O	7 7/8	8 5/8
Gas pilot in inches			
Mounting flange to gas pilot	B	22	22 1/8
Center line to gas pilot inlet (width)	H	4 1/2	4 1/2
Center line to gas pilot inlet (height)	I	4 9/16	5
Oil pump in inches			
Mounting flange to oil pump	C	21 1/2	21 7/8
Leg support bracket in inches			
Mounting flange to bracket	P	25 1/8	28 1/2
Center line to bracket	Q	3 9/16	4 1/64

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FP Series

Standard Dimension Sheet



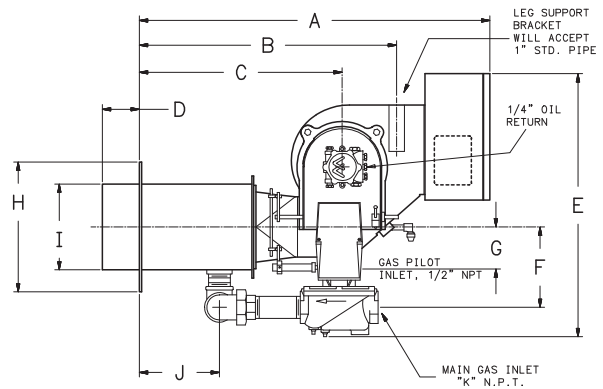
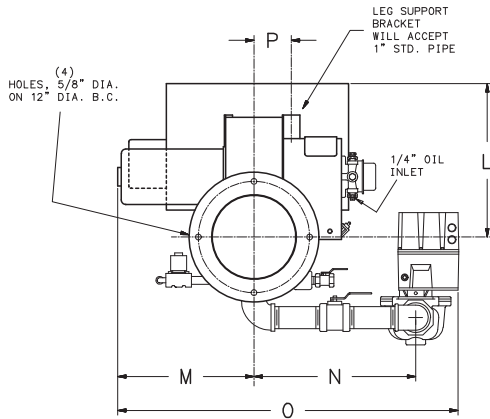
Inverted Configuration

	DIM	Burner Frame Size	
		Size 1	Size 2
Length in inches			
Overall length	A	25 7/8	26 3/4
Width in inches			
Overall width	E	30 1/4	30 3/4
Center line to left side	F	11 3/4	12
Center line to right side	G	18 1/2	18 3/4
Height in inches			
Overall height	L	20 3/8	22 1/2
Center line to top	H	11 5/8	13 3/4
Center line to bottom	J	8 3/4	8 3/4
Blast tube dimensions in inches			
Extension	D	2	2
Diameter	O	6 1/8	6 1/8
Mounting flange dimensions in inches			
Diameter	N	11	11
Gas inlet in inches			
Center line to main gas inlet	I	6 1/2	11 1/2
Mounting flange to main gas inlet	K	3 1/8	3 1/8
Gas pilot in inches			
Mounting flange to gas pilot	B	13 5/16	12 1/8
Center line to gas pilot inlet	M	4 3/8	4 9/16
Oil pump in inches			
Mounting flange to oil pump	C	12 5/16	12 5/16

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Standard Dimension Sheet



Inverted Configuration

DIM	Burner Frame Size		
	Size 3	Size 4	
Length in inches			
Overall length	A	35	37 7/8
Width in inches			
Overall width	O	29 5/8	36 3/4
Center line to left side	M	12	14 7/8
Height in inches			
Overall height	E	26 1/4	28 3/8
Center line to top	L	16 3/8	17
Blast tube dimensions in inches			
Extension	D	3 15/16	3 15/16
Diameter	I	8 1/4	9 1/4
Mounting flange dimensions in inches			
Diameter	H	14	14
Gas inlet in inches			
Center line to main gas inlet (Width)	N	15 1/8	17 7/16
Center line to main gas inlet (Height)	F	7 7/8	8 5/8
Mounting flange to main gas inlet	J	7 7/8	8 5/8
Diameter	K	1 1/2	2
Gas pilot in inches			
Center line to gas pilot inlet	G	4	4 1/2
Oil pump in inches			
Mounting flange to oil pump	C	21 1/2	21 7/8
Leg support bracket in inches			
Mounting flange to leg support bracket	B	25 1/8	27 1/2
Center line to leg support bracket	P	3 9/16	4 1/64

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INDUSTRIAL COMBUSTION

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