

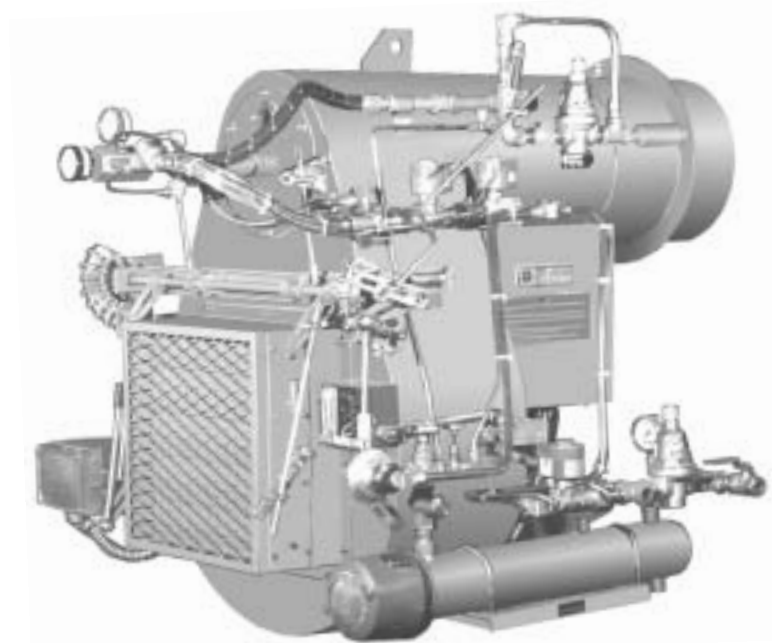
1	F	15.15	Rev. 16
		Replaces	1-F-15.19
1-03	Replaces	5-01	

TYPE F TURBO-RING FORCED DRAFT BURNERS

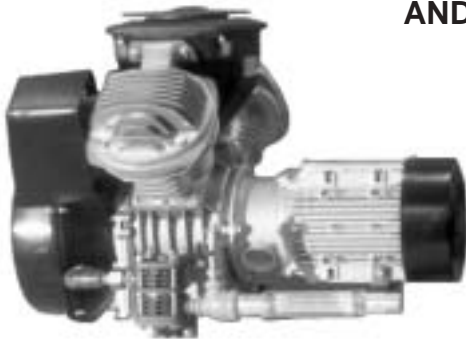
Patented*

USING GAS AND NO. 2 THROUGH NO. 6 OIL, AIR OR STEAM ATOMIZATION

Typical Gas-Oil
Burner Shown
Construction
Methods and
Appearance
May Differ on
Some Models



TYPICAL DUAL-FUEL BURNER WITH GAS AND AIR ATOMIZING OIL SYSTEM

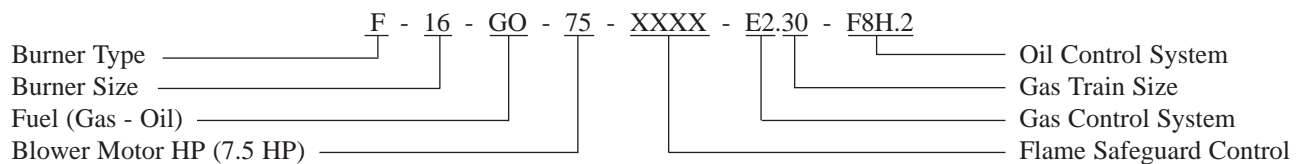


Air Compressor

NOTE

Air compressor is standard with air atomizing systems only. It is optional (extra cost) for steam atomizing units.

Burner Numbering System



- 1 See Catalog Sheet 1-gen-10.1 for burner numbering.
- 2 Use Order Entry and Equipment Pricing Form 1196 when placing order.
- 3 See Catalog Sheet 1-F-15.16 for F22 burner.

*Covered by one or more of the following patents:
U.S. patent numbers 4785680; 4932274; 5441404;
5722821; 5944506; 5957682. Canadian patent
number 1279632 and Canadian patents pending.

Specifications and Capacities

BASIC BURNER MODEL NO.	MAXIMUM FIRING RATE									BURNER BLOWER MOTOR HP @ 3450 RPM	ELECT. HEATER K. W.	AIR ATOMIZATION	
	COMBUSTION CHAMBER PRESSURE											AT 30 PSIG	
	DRAFT-.05" W.C.		LOW PRESSURE			HIGH PRESSURE						AIR COMPRESSOR	
	NATURAL GAS	OIL	PRESS.	NATURAL GAS	OIL	PRESS.	NATURAL GAS	OIL	MODEL NO.			HP @ 1725 RPM	
BTU/HR 1000s	GPH	INCHES W.C.	BTU/HR 1000s	GPH	INCHES W.C.	BTU/HR 1000s	GPH						
F10 15	3650	24	0.5	3360	22	-	-	-	1-1/2	4	LE15	2	
F10.1 30	-	-	0.5	4400	29	1.3	4200	28	3	4	LE15	2	
F10 30	4750	32	-	-	-	-	-	-	3	5	LE15	2	
F10.2 50	-	-	0.5	5500	37	-	-	-	5	5	LE15	2	
F10.1 50	6050	40	-	-	-	-	-	-	5	5	LE15	2	
F12 30	-	-	0.5	6300	42	1.5	5600	37	3	5	LE15	2	
F12.9 30	7000	47	-	-	-	-	-	-	3	5	LE15	2	
F12.1 50	-	-	0.5	7700	55	2.0	6700	45	5	5	LE22	3	
F12 50	8400	56	-	-	-	-	-	-	5	7	LE22	3	
F12.4 50	-	-	-	-	-	1.5	8400	56	5	5	LE22	3	
F12.5 75	-	-	-	-	-	3.0	8400	56	7-1/2	7	LE22	3	
F14.9 30	9800	65	0.5	9700	64	2.0	9000	60	3	7	LE22	3	
F14 50	12300	82	0.5	11200	75	2.0	10500	70	5	7	LE22	3	
F14.1 75	-	-	-	-	-	2.0	10500	70	7-1/2	7	LE22	3	
F16.9 50	-	-	-	-	-	0.7	12600	84	5	10	LE22	3	
F16 75	-	-	0.5	15400	107	1.6	12600	84	7-1/2	10	LE22	3	
F16.9 75	16800	112	-	-	-	-	-	-	7-1/2	10	LE22	3	
F16.1 100	-	-	0.5	16800	112	2.3	14700	98	10	10	LE22	3	
F16 100	18480	123	-	-	-	-	-	-	10	10	LE40	5	
F16.1 150	-	-	-	-	-	2.5	16800	112	15	10	LE22	3	
F18.9 75	-	-	-	-	-	0.9	16800	112	7-1/2	10	LE22	3	
F18.9 100	-	-	0.5	19200	128	-	-	-	10	15	LE40	5	
F18.8 100	18200	121	-	-	-	-	-	-	10	15	LE40	5	
F18 150	-	-	0.5	23100	154	3.0	21000	140	15	15	LE40	5	
F18.9 150	23100	154	-	-	-	-	-	-	15	15	LE40	5	
F18.1 200	-	-	0.5	25900	173	2.0	25200	168	20	15	LE40	5	
F18 200	24600	164	-	-	-	-	-	-	20	15	LE40	5	
F18.2 250	-	-	0.5	27300	182	4.0	25200	168	25	15	LE40	5	
F18.2 300	-	-	0.5	30100	201	3.0	29400	196	30	15	LE40	5	
F18.1 300	30500	203	-	-	-	-	-	-	30	15	LE40	5	
F18.3 400	-	-	0.5	31500	210	6.0	29400	196	40	15	LE40	5	
F20.9 40	-	-	-	-	-	5.0	29400	196	40	15	LE40	5	
F20 40	-	-	-	-	-	5.0	34000	224	40	15	LE55	7-1/2	
	[1]	[2]	[1]	[2]	[1]	[2]	[3]				[3]		

Fuel

Gas = G

Oil = O

Gas/Oil = GO

See 1-F-15.15
for Light Oil

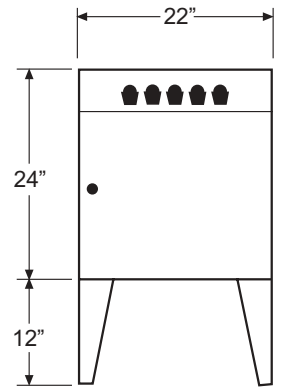
[1] Capacity based on an elevation of 2,000 feet. Capacity will be reduced 4% for each additional 1,000 feet of elevation.

[2] Oil burners - No. 4, 5 and 6 oil, GPH based upon 150,000 Btu/U. S. gallon. Air or steam atomizing, gas pilot ignition standard.

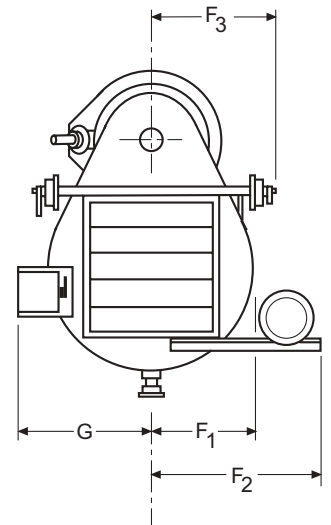
[3] Standard motor voltage 240/480-60-3.

Dimensions

BASIC BURNER MODEL NO.	SHIPPING WEIGHT LBS. APPROX.	OVERALL BURNER DIMENSIONS (INCHES)									
		A	B	C ₁	C ₂	D	E	F ₁	F ₂	F ₃	G
F10 15 F10.1 30 F10 30 F10.2 50 F10.1 50	570 600 600 620 620	23-1/8	5	29-1/2	39	10	16-3/4	10-1/4	17-1/2	15	15-1/2
F12 30 F12.9 30	650 650	23-1/8	5	30	39	12	17-5/8	10-1/4	17-1/2	15	15-1/2
F12.1 50 F12 50	700 700	23-1/8	5	30	39	12	17-5/8	10-1/4	17-1/2	15	15-1/2
F12.4 50 F12.5 75	800 850	31	6	37-1/2	46-1/2	12	21-1/4	13	20	19	18
F14.9 30 F14 50 F14.1 75	1000 1000 1100	32-7/8	7	37-1/2	46-1/2	14	21-1/4	14-3/4	22	19	19-1/2
F16.9 50 F16 75 F16.9 75 F16.1 100 F16 100	1300 1300 1300 1400 1400	32-7/8	7	37-1/2	46-1/2	16	21-1/4	14-3/4	22	19	19-1/2
F16.1 150	1400	34-1/8	8	39-1/2	48-1/2	16	21-1/4	14-3/4	22	19	19-1/2
F18.9 75 F18.9 100 F18.8 100 F18 150 F18.9 150 F18.1 200 F18 200	1400 1500 1500 1600 1600 1700 1700	34-1/8	8	39-1/2	48-1/2	18	21-1/2	14-3/4	22	19	19-1/2
F18.2 250 F18.2 300 F18.1 300 F18.3 400	1800 1900 1900 2000	37-3/4	9	43	52	18	25-1/2	16-3/4	23-1/2	19	20-1/2
F20.9 40 F20 40	2500 2500	37-3/4	9	43	52	20	25-1/2	16-3/4	23-1/2	19	20-1/2
		4	5								



REMOTE CONTROL CABINET



NOTE

Dimension C₁ plus burner nose length (5-1/2" standard) is required behind the burner to remove the drawer assembly.

Fuel

Gas = G

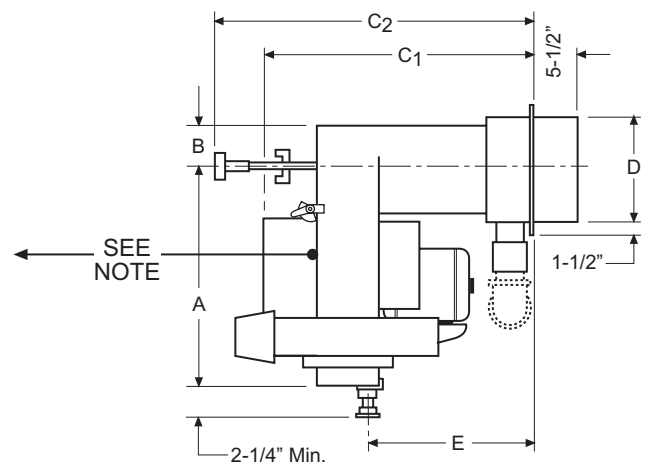
Oil = O

Gas/Oil = GO

See 1-F-15.15 for Light Oil

4 Weight will vary by burner depending on size and type of gas train, type of fuel control system, etc. The figure shown represents a burner with standard controls including gas train.

5 Dimensions shown cover the most commonly used burners within each size. These dimensions are typical and subject to change without notice. Request a certified print for specific dimensions.



Standard Equipment - Heavy Oil Burners

SINGLE OR COMBINATION FUEL BURNERS		FUEL CONTROL SYSTEMS				
DESCRIPTION		MODULATING PROVEN LOW FIRE START				
		GAS SYSTEMS	OIL SYSTEMS		GAS-OIL SYSTEMS	
		E2	Air Atomizing	Steam Atomizing	E2F8H.2	E2F9H.2
			F8H.2	F9H.2		
GENERAL	Burner Motor and Fan Air Inlet Register Air Flow Safety Switch Proven Low Fire Start, Modulating Motor Air-Fuel Control Flame Detector (Scanner Type)	X	X	X	X	X
CONTROL CABINET	Control Cabinet, 22" X 24", 4 Indicator Lights & Control Switch Combustion Flame Safeguard Control Motor Contactor and O.L. Protection Modulating Sub-Panel with Manual-Auto Switch & Manual Potentiometer	X	X	X	X	X
	Air Compressor Motor Contactor & O.L. Protection		X		X	
	Fuel Transfer Switch (Gas-Oil)				X	X
GAS PILOT SYSTEM	Safety Pilot Burner Gas Pilot Ignition Transformer, 6000V. Pilot Solenoid Valve Pilot Gas Pressure Regulator (Low Pressure Type) Pilot Shutoff Cock	X	X	X	X	X
GAS CONTROL	Butterfly Gas Valve Safety Leak Test Cock Gas Pressure Gauge UL Gas Control Train (Not Included in Price of Burner)	X			X	X
OIL CONTROL	Oil Drawer Assembly with Air Diffuser & Hot Circulating Loop Main Oil Solenoid Valve (Hi-Temp) Safety Oil Solenoid Valve (Hi-Temp) Return Oil Solenoid Valve (Hi-Temp) Low Oil Pressure Switch (when required) Oil Pressure Gauges with Gauge Cocks Oil Metering Valve Air or Steam Atomizing Oil Nozzle Oil Relief Valve Oil Thermometer Electric Oil Heater Manual Shutoff Valve Flexible Metal Hose Oil Supply Line		X	X	X	X
AIR CONTROLS	Air Compressor Low Air Pressure Switch Back Pressure Regulating & Relief Valve Flexible Air Supply Line Air Pressure Regulating Valve Air Pressure Gauges Air Metering Valve Air Check Valve		X		X	
STEAM CONTROLS	Manual Valve Low Atomizing Steam Pressure Switch Steam Strainer Steam Regulator Steam Metering Valve Steam Trap Steam Solenoid Valve Steam Check Valve Condensate Manual Valve Flexible Metal Hose Steam Supply Line			X		X