

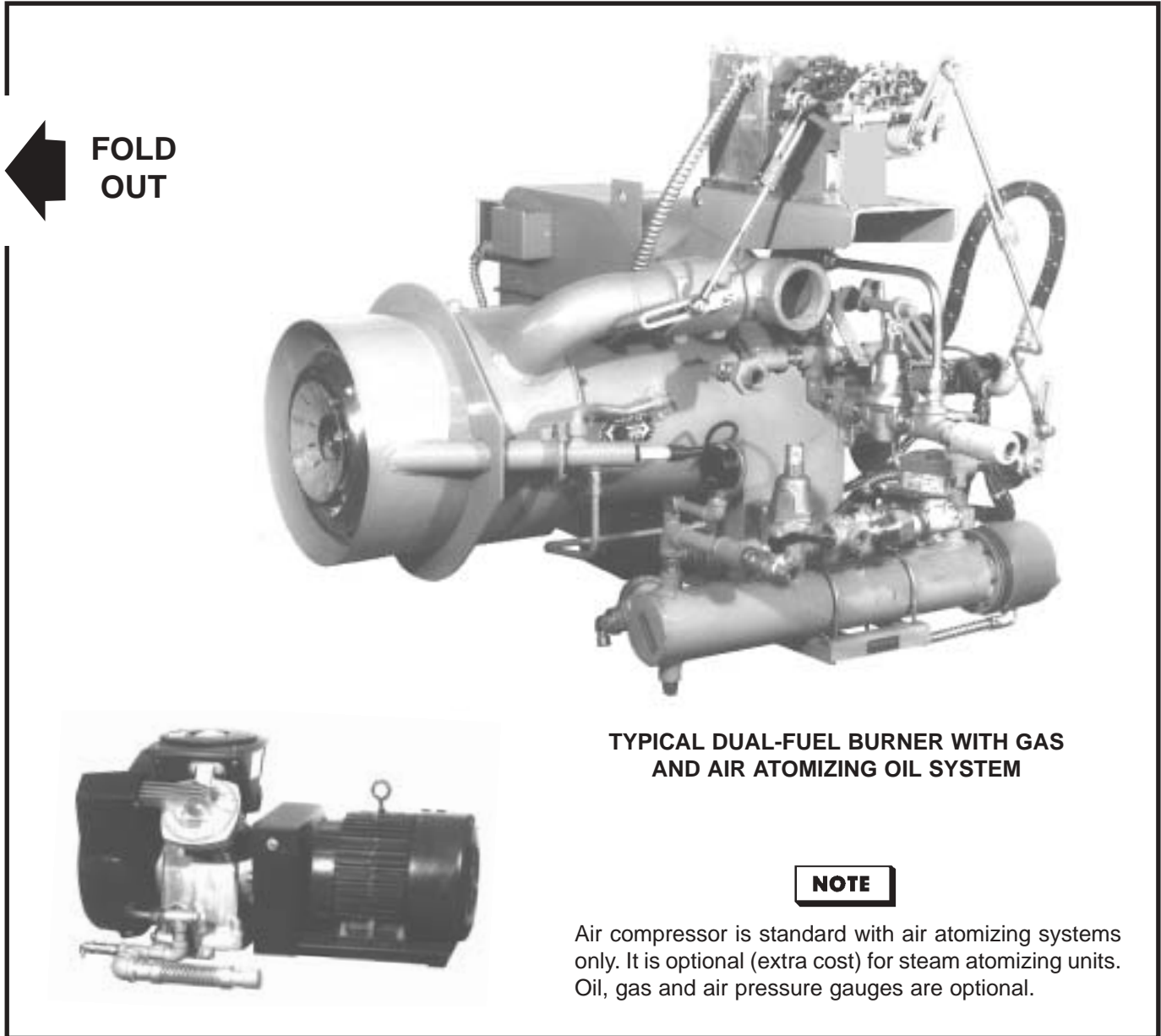
Specification Data

1	F	15.25	Rev. 13
1-03	Replaces	9-97	

TYPE FL TURBO RING FORCED DRAFT BURNERS

Patented*

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



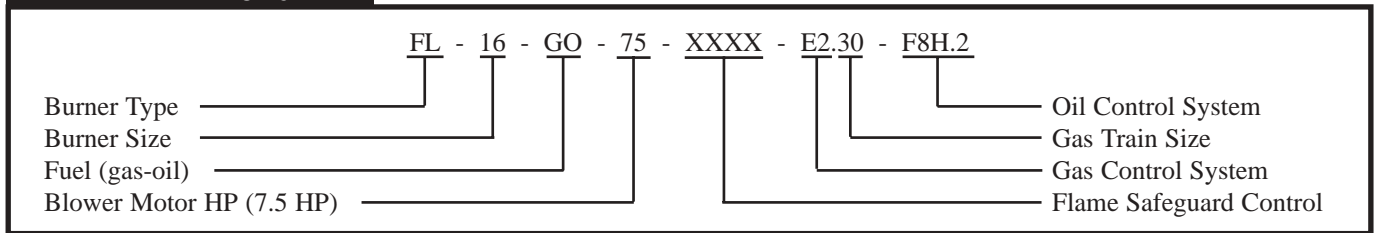
**FOLD
OUT**

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

NOTE

Air compressor is standard with air atomizing systems only. It is optional (extra cost) for steam atomizing units. Oil, gas and air pressure gauges are optional.

Burner Numbering System

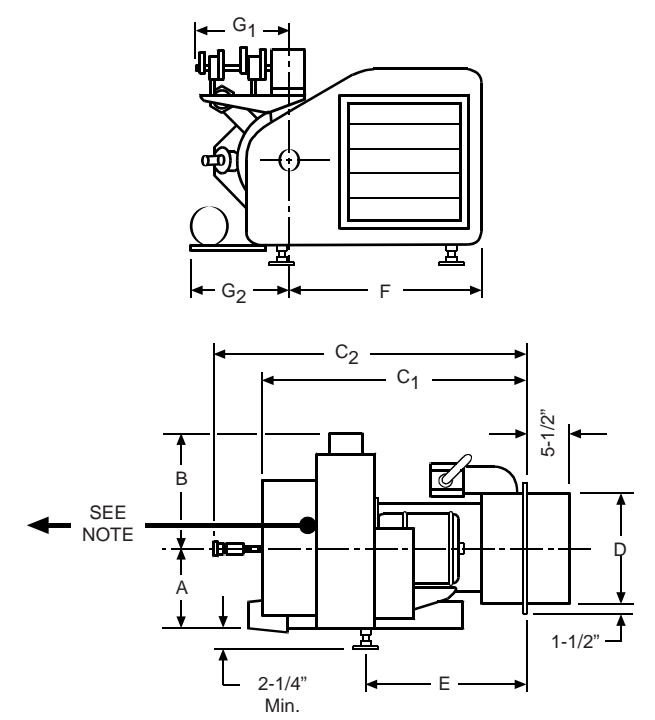


- 1 See Catalog Sheet 1-Gen-10.1 for burner numbering.
- 2 Use Order Entry and Equipment Pricing Form 1196 when placing order.

*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.

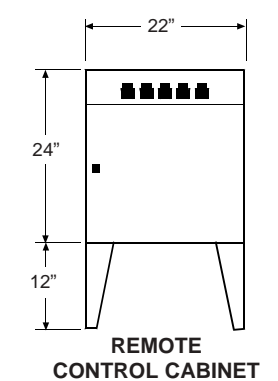
Specifications, Capacities and Dimensions

BASIC BURNER MODEL NO.	MAXIMUM FIRING RATE COMBUSTION CHAMBER PRESSURE									BURNER BLOWER MOTOR		ELECT. HEATER K. W.	AIR ATOMIZATION AT 30 PSIG			SHIPPING WEIGHT LBS. APPROX.	OVERALL BURNER DIMENSIONS (INCHES)												
	DRAFT-.05" W.C.			LOW PRESSURE			HIGH PRESSURE						AIR COMPRESSOR				A	B	C ₁	C ₂	D	E	F	G ₁	G ₂				
	NATURAL GAS	OIL	PRESS.	NATURAL GAS	OIL	PRESS.	NATURAL GAS	OIL	PRESS.	NATURAL GAS	OIL	HP	RPM	MODEL NO.	HP	RPM										LBS. APPROX.			
	BTU/HR 1000s	GPH	INCHES W.C.	BTU/HR 1000s	GPH	INCHES W.C.	BTU/HR 1000s	GPH	INCHES W.C.	BTU/HR 1000s	GPH	HP	RPM	K. W.	MODEL NO.	HP	RPM	LBS. APPROX.	A	B	C ₁	C ₂	D	E	F	G ₁	G ₂		
FL10 15	3650	24	0.5	3360	22	-	-	-	1-1/2	3450	4	1725	4	LE5	2	1725	570												
FL10.1 30	-	-	0.5	4400	29	1.3	4200	28	3	3450	4	1725	4	LE5	2	1725	600												
FL10 30	4750	32	-	-	-	-	-	-	3	3450	5	1725	5	LE5	2	1725	600	10-1/4	21	31-7/8	39-1/2	10	22	22	16	12-1/2			
FL10.2 50	-	-	0.5	5500	37	-	-	-	5	3450	5	1725	5	LE5	2	1725	620												
FL10.1 50	6050	40	-	-	-	-	-	-	5	3450	5	1725	5	LE5	2	1725	620												
FL12.3 20.4	-	-	0.5	5000	33	-	-	-	2	1725	5	1725	5	LE5	2	1725	625												
FL12.2 20.4	5500	37	-	-	-	-	-	-	2	1725	5	1725	5	LE5	2	1725	625	10-1/4	21	32-7/8	41-1/2	12	21	26-1/4	16	13			
FL12 30	-	-	0.5	6300	42	1.5	5600	37	3	3450	5	1725	5	LE5	2	1725	650												
FL12.9 30	7000	47	-	-	-	-	-	-	3	3450	5	1725	5	LE5	2	1725	650	10-1/4	21	30	38-1/2	12	20	22	16	13			
FL12.4-G-30.4	-	-	0.5	7100	-	-	-	-	3	1725	GAS ONLY						700												
FL12.3-G-30.4	7600	-	-	-	-	-	-	-	3	1725	GAS ONLY						700	10-1/4	21	32-7/8	-	12	21	26-1/4	16	13			
FL12.1 50	-	-	0.5	7700	55	2.0	6700	45	5	3450	5	1725	5	LE5	2	1725	700												
FL12 50	8400	56	-	-	-	-	-	-	5	3450	7	1725	7	LE5	2	1725	700	10-1/4	21	30	38-1/2	12	20	22	16	13			
FL12.4 50	-	-	-	-	-	1.5	8400	56	5	3450	5	1725	5	LE5	2	1725	800												
FL12.5 75	-	-	-	-	-	3.0	8400	56	7-1/2	3450	7	1725	7	LE5	2	1725	850	11	17	36-1/2	46	12	20-1/2	29-7/8	16	13			
FL14 30.4	-	-	0.5	9100	61	-	-	-	3	1725	7	1725	7	LE6	3	1725	900												
FL14.9 30.4	8400	56	-	-	-	-	-	-	3	1725	7	1725	7	LE5	2	1725	900												
FL14.1 50.4	-	-	0.5	9800	65	-	-	-	5	1725	7	1725	7	LE6	3	1725	1000												
FL14 50.4	11200	75	-	-	-	-	-	-	5	1725	7	1725	7	LE6	3	1725	1000	12-3/8	18-1/2	33-1/2	42	14	21-1/2	28-1/4	16	14			
FL14.9 30	9800	65	0.5	9700	64	2.0	9000	60	3	3450	7	1725	7	LE6	3	1725	1000												
FL14 50	12300	82	0.5	11200	75	-	-	-	5	3450	7	1725	7	LE6	3	1725	1000												
FL14.1 75	-	-	-	-	-	2.0	10500	70	7-1/2	3450	7	1725	7	LE6	3	1725	1100												
FL16 50.4	-	-	0.5	12600	84	-	-	-	5	1725	7	1725	7	LE6	3	1725	1200												
FL16.9 50.4	14000	93	-	-	-	-	-	-	5	1725	10	1725	10	LE6	3	1725	1200												
FL16.1 75.4	-	-	0.5	14000	93	-	-	-	7-1/2	1725	10	1725	10	LE6	3	1725	1300												
FL16 75.4	15400	103	-	-	-	-	-	-	7-1/2	1725	10	1725	10	LE6	3	1725	1300												
FL16.9 50	-	-	-	-	-	0.7	12600	84	5	3450	10	1725	10	LE6	3	1725	1300	12-1/2	18-7/8	37-1/2	47	16	21-1/2	30-1/4	16	16			
FL16 75	-	-	0.5	15400	107	1.6	12600	84	7-1/2	3450	10	1725	10	LE6	3	1725	1300												
FL16.9 75	16800	112	-	-	-	-	-	-	7-1/2	3450	10	1725	10	LE6	3	1725	1300												
FL16.1 100	-	-	0.5	16800	112	2.3	14700	98	10	3450	10	1725	10	LE6	3	1725	1400												
FL16 100	18480	123	-	-	-	-	-	-	10	3450	10	1725	10	LE7	3	1140	1400												
FL16.1 150	-	-	-	-	-	2.5	16800	112	15	3450	10	1725	10	LE6	3	1725	1400												
FL18.9 75	-	-	-	-	-	0.9	16800	112	7-1/2	3450	10	1725	10	LE6	3	1725	1400												
FL18 75.4	-	-	0.5	17500	117	-	-	-	7-1/2	1725	10	1725	10	LE6	3	1725	1400												
FL18.9 75.4	19200	128	-	-	-	-	-	-	7-1/2	1725	15	1725	15	LE7	3	1140	1400												
FL18.9 100	-	-	0.5	19200	128	-	-	-	10	3450	15	1725	15	LE7	3	1140	1500	12-1/2	18-7/8	37-1/2	47	18	21-1/2	30-1/4	16	16			
FL18.8 100	18200	121	-	-	-	-	-	-	10	3450	15	1725	15	LE6	3	1725	1500												
FL18 150	-	-	0.5	19200	128	2.5	16800	112	15	3450	15	1725	15	LE7	3	1140	1600												
FL18.9 150	23100	154	-	-	-	-	-	-	15	3450	15	1725	15	LE7	3	1140	1600												
FL18.1 200	-	-	0.5	23100	154	3.0	21000	140	20	3450	15	1725	15	LE7	3	1140	1700												
FL18 200	24600	164	-	-	-	-	-	-	20	3450	15	1725	15	LE7	3	1140	1700												
FL18.2 250	-	-	0.5	27300	182	4.0	25200	168	25	3450	15	1725	15	LE7	3	1140	1800	14-7/8	21	43	52	18	25-1/2	37-1/8	16	16			
FL18.2 300	-	-	0.5	29400	196	-	-	-	30	3450	15	1725	15	LE7	3	1140	1900												
FL18.1 300	30500	203	-	-	-	-	-	-	30	3450	15	1725	15	LE7	3	1140	1900												



NOTE

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



REMOTE CONTROL CABINET

Fuel

Gas = G

Oil = O

Gas/Oil = GO

See 1-F-15.2 for Light Oil

- 1 Capacity based upon an approximation of 80% combustion efficiency using higher heating value (HHV) of the fuel and maximum burner capacity at an elevation of 2,000 feet. Capacity will be reduced 4% for each additional 1,000 feet of elevation. Pressurized furnace rating will apply to most 2-pass boilers with pressurized construction. Consult factory for 3 and 4-pass boilers and higher firebox pressures. Refer to catalog sheet 1-GEN-10.53 to determine gas control train size and to 1-F-15.3 for orifice size for the specific job conditions.
- 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.
- 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 OR HI-LOW PROVEN LOW FIRE START				
		GAS SYSTEM	OIL SYSTEMS		GAS-OIL SYSTEMS	
			E2	Air Atomizing F8H.2	Steam Atomizing F9H.2	E2F8H.2
GEN'L	Burner Motor and Fan Air Inlet Register Air Flow Safety Switch Proven Low Fire Start, Modulating Motor Air-Fuel Control Flame Detector (Scanner Type) Characterized Linkage	X	X	X	X	X
CONTROL CABINET	Control Cabinet, 22" x 24", 4 Indicator Lights & Control Switch Combustion Flame Safety 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 or Ignitor 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 U. L. 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) Secondary Safety Oil Solenoid Valve Low Oil Pressure Switch (When Required) Return Oil Solenoid Valve (Hi-Temp) 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 CONTROL	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 CONTROL	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