



PROFIRE D SERIES

TECHNICAL DATA INFORMATION PACKET

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Technical Data

D Series

Choice of NFPA, CSD-1, GAP, and FM for U.S. or Canadian units

Uncontrolled Emissions Configuration (DG, DL, DLG)

4.2 - 42.0 MM BTU/H NG; 30 - 300 GPH #2 OIL

Standard equipment:	Combustion Control System options:	Fuel options:
3450 RPM motor, panel signal lights (Power On, Main Fuel, Ignition, Flame Failure), dry oven and gasket, combustion air proving switch, high fire air proving switch, 120/1/60 control circuit, burner mounted panel, hinged blast tube with right-hand swing. Gas and gas/oil units only: butterfly rate control valve, high/low gas pressure switches, two gas shutoff cocks, main gas regulator, shipped loose gas train.	Parallel Positioning Combustion Control System with O ₂ Trim and Variable Frequency Drive (VFD)	Main Fuel: Natural gas (DG), #2 oil - air atomized (DL) or Combination gas/ #2 oil - air atomized (DLG). Igniter Fuel: Natural gas and/or propane. Fuel Changeover Switch: Combination gas/oil units only (DLG).

Series Features

◇ Optional Feature

	D-42	D-54 to D-105	D-145	D-175 to D-210	D-252 to D-315	D-336 to D-420
Flame Safeguard						
UV Scanner	•	•	•	•	•	•
Mode of Operation						
Full Modulation Firing	•	•	•	•	•	•
Auto-Manual Firing Rate Control	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹
Ignition						
Gas/Electric Pilot and Ignition Transformer	•	•	•	•	•	•
#2 Oil Pilot (DL, DLG)	◇	◇	◇	◇	◇	◇
Oil Components						
3-Way Solenoid Valve	•	•	•	•	•	•
2-Way Solenoid Valve	•	•	•	•	•	•
3-Way Motorized POC Valve	◇	◇	◇	◇	•	•
2-Way Motorized POC Valve	◇	◇	◇	◇	◇	◇
Atomizing Air Proving Switch	•	•	•	•	•	•
Low Oil Pressure Switch	◇	◇	◇	•	•	•
Burner Mounted Integral Oil/Air System	•	•	•			
Burner Mounted Oil Metering System				•	•	•
Separately Mounted Air Compressor Module				•	•	•
Gas Components						
Motorized Valve w/o POC & Solenoid Valve	•					
Motorized Valve w/ POC & Solenoid Valve	◇	•				
Motorized Valve w/ POC (2)	◇	◇	◇	◇	◇	◇
Motorized w/ POC & Motorized w/o POC	◇	◇	•	•	•	•
Normally Open Vent Valve	◇	◇	•	•	•	•

¹ Standard for full modulation; optional on select parallel positioning systems

Note: A separate oil circulating pump set is required for all DL and DLG burners. The burner mounted unit is an oil input metering device only.

Standard Ratings

D Series

DG - DL - DLG: Gas, #2 Oil, Gas/Oil Configuration

	Gas Input MBH	#2 Oil Input GPH	BHP @ 80% Eff.	Blower Motor HP "S" ¹	Blower Motor HP "P" ²	Integral Oil/Air System Motor HP 3 Phase	Separate Compressor Module Motor HP 3 Phase	Oil Metering System Motor HP 3 Phase	Standard Gas Train Pipe Size (in.)	Gas Pressure Required ("w.c.) ³
Model No. & Frame Size										
D-42-1	4,200	30	100	3	3	1	-	-	2	9.2
D-54-1	5,400	39	129	3	5	1	-	-	2	15.3
D-63-1	6,550	47	156	5	5	1	-	-	2	21.6
D-84-2	8,400	60	200	5	7 1/2	1	-	-	2 1/2	18.0
D-105-2	10,500	75	250	7 1/2	10	2	-	-	3	16.0
D-145-3	15,000	107	357	15	15	2	-	-	3	2 PSI
D-175-4	17,500	125	417	20	20	-	5	1/2	3	5 PSI
D-210-5	21,000	150	500	20	25	-	5	3/4	3	5 PSI
D-252-6	25,200	180	600	25	30	-	7 1/2	3/4	3	5 PSI
D-300-6	30,000	215	714	40	40	-	7 1/2	3/4	3	10 PSI
D-315-6	31,500	225	750	-	60	-	7 1/2	3/4	3	10 PSI
D-336-7	33,600	240	800	-	60	-	7 1/2	3/4	3	10 PSI
D-378-8	37,800	270	900	-	75	-	15	1	4	10 PSI
D-420-8	42,000	300	1,000	-	75	-	15	1	4	10 PSI

208 / 230 / 460 / 3

230 / 460 / 3

460 / 3

¹ Use model "S" up to 1.5" w.c. furnace pressure, consult the factory for higher pressures

² Use model "P" up to 4.0" w.c. furnace pressure, consult the factory for higher pressures

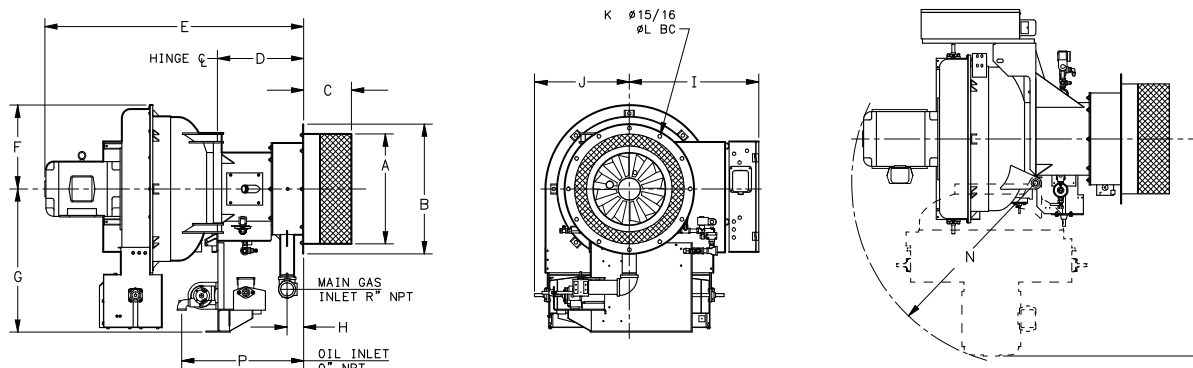
³ Standard gas pressures only, consult the factory for lower gas pressures

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. and 0.60 gravity. For total pressure at manifold, add furnace pressure. Oil input is based on 140,000 BTU/gal. Consult factory for 50 Hz. applications.

Standard Dimensions

D Series

DG - DL - DLG: Gas, #2 Oil, Gas/Oil Configuration



		Burner Frame Size & Model Number									
DIM		Size 1	Size 2		Size 3	Size 4	Size 5	Size 6		Size 7	Size 8
		42-63	84	105	145	175	210	252-300	315	336	378-420
Length in inches											
Overall length	E	45 3/4	44 5/8	45 5/8	56 7/8	60	64 3/4	66 3/8	69 3/8	68 1/2	73 7/8
Width in inches											
Center line to right side	I	21 5/8	23 7/8	23 7/8	24 3/4	25 1/4	32 3/8	32 3/8	32 3/8	32 3/8	36 7/8
Center line to left side	J	17 7/8	17 5/8	17 5/8	21	22	23 3/4	23 3/4	23 3/4	23 3/4	28
Height in inches											
Center line to top	F	13	15	15	15	15	21	21	21	21	23
Center line to bottom	G	23 3/4	25 3/8	25 3/8	30 1/8	31 7/8	35 7/8	37 3/8	37 3/8	38 7/8	39 7/8
Dry oven dimensions in inches											
Diameter of dry oven	A	15 7/8	19	19	22	27 1/2	27 1/2	31 1/2	31 1/2	34 5/8	34 5/8
Depth of dry oven	C	9	10	10	12	12	12	15	15	18	18
Mounting flange dimensions in inches											
Diameter	B	22	24	24	27	32 1/2	32 1/2	37	37	40	42
Flange to hinge	D	18	18	18	21 1/2	21 1/2	21 1/2	22	22	22	24
Diameter of bolt circle	L	20 1/2	22	22	25	30 1/2	30 1/2	35	35	38	40
Number of mounting holes	K	8	12	12	12	12	12	12	12	12	12
Hinge swing dimensions in inches											
Center line to outer hinge clearance	M	32 3/4	35 3/8	36 3/8	45	50 5/8	54 3/8	56 7/8	59 7/8	60 5/8	69 1/8
Hinge swing radius	N	27 3/8	29	30	37 3/8	41 1/4	46	47 1/2	50 1/4	50 1/4	55 5/8
Oil inlet dimensions in inches											
Diameter of oil inlet	Q	3/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Mounting flange to oil inlet	P	17 7/8	27	27	30 1/2	30 1/2	30 1/2	31	31	30 7/5	33 3/4
Gas inlet dimensions in inches											
Diameter of gas inlet	R	2	2 1/2	2 1/2	3	3	3	4	4	4	4
Mounting flange to gas inlet	H	3 5/8	3 5/8	3 5/8	4 1/8	4 1/8	4 1/8	4 5/8	4 5/8	4 5/8	3 7/8

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

Technical Data

D Series

Uncontrolled Emissions Configuration (DM, DMG)

4.2 - 42.0 MM BTU/H NG; 29 - 290 GPH #2-5 OIL

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

Standard equipment:	Combustion Control System options:	Fuel options:
3450 RPM motor, panel signal lights (Power On, Main Fuel, Ignition, Flame Failure), dry oven and gasket, combustion air proving switch, high fire air proving switch, 120/1/60 control circuit, burner mounted panel, hinged blast tube with right-hand swing. Gas and gas/oil units only: butterfly rate control valve, high/low gas pressure switches, two gas shutoff cocks, main gas regulator, shipped loose gas train.	Parallel Positioning Combustion Control System with O ₂ Trim and Variable Frequency Drive (VFD)	Main Fuel: #2-5 oil - Air atomized (DM) or Combination natural gas/ #2-5 oil - air atomized (DMG). Igniter Fuel: Natural gas and/or propane. Fuel Changeover Switch: Combination gas/oil units only (DMG).

Series Features

◊ Optional Feature



Flame Safeguard	D-42 to D-105	D-145	D-175	D-210	D-252 to D-315	D-336 to D-420
IR Scanner	•	•	•	•	•	•
Mode of Operation						
Full Modulation Firing	•	•	•	•	•	•
Auto-Manual Firing Rate Control	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹
Ignition						
Gas/Electric Pilot and Ignition Transformer	•	•	•	•	•	•
#2 Oil Pilot	◊	◊	◊	◊	◊	◊
Oil Components						
3-Way Oil Solenoid Valve	•	•	•	•		
2-Way Oil Solenoid Valve	•	•	•	•	•	•
3-Way Motorized POC Valve	◊	◊	◊	◊	•	•
2-Way Motorized POC Valve	◊	◊	◊	◊	◊	◊
Atomizing Air Proving Switch	•	•	•	•	•	•
Low Oil Pressure Switch	◊	◊	•	•	•	•
Burner Mounted Integral Oil/Air System	•	•				
Burner Mounted Oil Metering System			•	•	•	•
Separately Mounted Air Compressor Module			•	•	•	•
Nozzle Line Heater with Cold Oil Lockout	•	•	•	•	•	•
Gas Components						
Motorized Valve w/o POC & Solenoid Valve	•					
Motorized Valve w/ POC & Solenoid Valve	◊	•				
Motorized Valve w/ POC (2)	◊	◊	◊	◊	◊	◊
Motorized w/ POC & Motorized w/o POC	◊	◊	•	•	•	•
Normally Open Vent Valve	◊	•	•	•	•	•

¹ Standard for full modulation; optional on select parallel positioning systems

Note: A separate oil circulating pump set is required for all DM and DMG burners. The burner mounted unit is an oil input metering device only.

Standard Ratings

D Series

DM - DMG: #2-5 Oil, Gas/Oil Configuration

	Gas Input MBH	#2-5 Oil Input GPH	BHP @ 80% Eff.	Blower Motor HP "S" ¹	Blower Motor HP "P" ²	Integral Oil/Air System Motor HP 3 Phase	Separate Compressor Module Motor HP 3 Phase	Oil Metering System Motor HP 3 Phase	Standard Gas Train Pipe Size (in.)	Gas Pressure Required ("w.c.") ³	Nozzle Line Heater (kw)
Model No. & Frame Size											
D-42-1	4,200	29	100	3	3	1	-	-	2	9.2	3
D-54-1	5,400	38	129	3	5	1	-	-	2	15.3	3
D-63-1	6,550	45	156	5	5	2	-	-	2	21.6	3
D-84-2	8,400	58	200	5	7 1/2	2	-	-	2 1/2	18.0	5
D-105-2	10,500	73	250	7 1/2	10	2	-	-	3	16.0	5
D-145-3	15,000	104	357	15	15	2	-	-	3	2 PSI	5
D-175-4	17,500	121	417	20	20	-	5	1/2	3	5 PSI	5
D-210-5	21,000	145	500	20	25	-	5	3/4	3	5 PSI	7
D-252-6	25,200	174	600	25	30	-	7 1/2	3/4	3	5 PSI	10
D-300-6	30,000	207	714	40	40	-	7 1/2	3/4	3	10 PSI	10
D-315-6	31,500	217	750	-	60	-	7 1/2	3/4	3	10 PSI	10
D-336-7	33,600	232	800	-	60	-	7 1/2	3/4	3	10 PSI	10
D-378-8	37,800	261	900	-	75	-	15	1	4	10 PSI	10
D-420-8	42,000	290	1,000	-	75	-	15	1	4	10 PSI	10

208 / 230 / 460 / 3

230 / 460 / 3

460 / 3

¹ Use model "S" up to 1.5" w.c. furnace pressure, consult the factory for higher pressures

² Use model "P" up to 4.0" w.c. furnace pressure, consult the factory for higher pressures

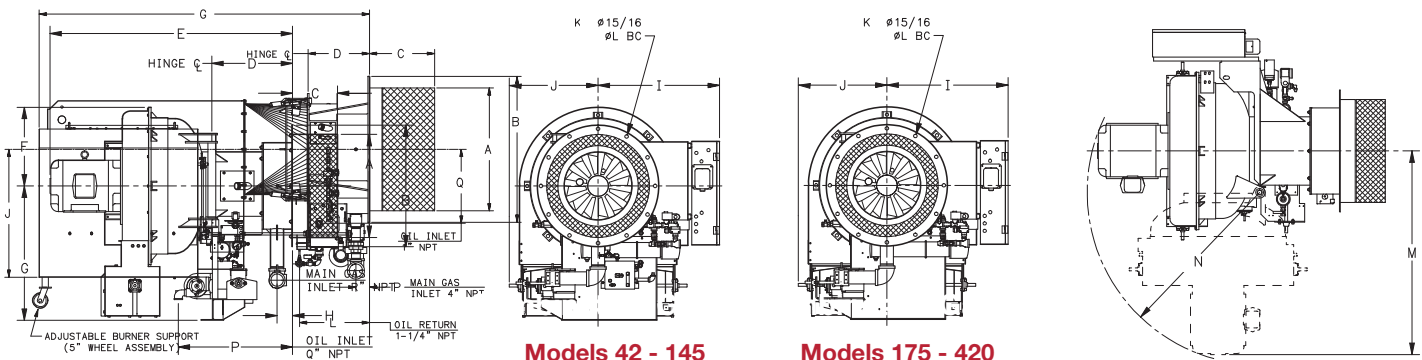
³ Standard gas pressures only, consult the factory for lower gas pressures

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. and 0.60 gravity. For total pressure at manifold, add furnace pressure. Oil input is based on 145,000 BTU/gal. Consult factory for 50 Hz. applications.

Standard Dimensions

D Series

DM - DMG: #2-5 Oil, Gas/Oil Configuration



Burner Frame Size & Model Number

DIM	Burner Frame Size & Model Number										
	Size 1 42-63	Size 2 84	Size 2 105	Size 3 145	Size 4 175	Size 5 210	Size 6 252-300	Size 6 315	Size 7 336	Size 8 378-420	
Length in inches											
Overall length	E	45 3/4	44 5/8	45 5/8	56 7/8	60	64 3/4	66 3/8	69 3/8	68 1/2	73 7/8
Width in inches											
Center line to right side	I	21 5/8	23 7/8	23 7/8	24 3/4	25 1/4	32 3/8	32 3/8	32 3/8	32 3/8	36 7/8
Center line to left side	J	17 7/8	17 5/8	17 5/8	21	22	23 3/4	23 3/4	23 3/4	23 3/4	28
Height in inches											
Center line to top	F	13	15	15	15	15	21	21	21	21	23
Center line to bottom	G	23 3/4	25 3/8	25 3/8	30 1/8	31 7/8	35 7/8	37 3/8	37 3/8	38 7/8	39 7/8
Dry oven dimensions in inches											
Diameter of dry oven	A	15 7/8	19	19	22	27 1/2	27 1/2	31 1/2	31 1/2	34 5/8	34 5/8
Depth of dry oven	C	9	10	10	12	12	12	15	15	18	18
Mounting flange dimensions in inches											
Diameter	B	22	24	24	27	32 1/2	32 1/2	37	37	40	42
Flange to hinge	D	18	18	18	21 1/2	21 1/2	21 1/2	22	22	22	24
Diameter of bolt circle	L	20 1/2	22	22	25	30 1/2	30 1/2	35	35	38	40
Number of mounting holes	K	8	12	12	12	12	12	12	12	12	12
Hinge swing dimensions in inches											
Center line to outer hinge clearance	M	32 3/4	35 3/8	36 3/8	45	50 5/8	54 3/8	56 7/8	59 7/8	60 5/8	69 1/8
Hinge swing radius	N	27 3/8	29	30	37 3/8	41 1/4	46	47 1/2	50 1/4	50 1/4	55 5/8
Oil inlet dimensions in inches											
Diameter of oil inlet	Q	3/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Mounting flange to oil inlet	P	17 7/8	27	27	30 1/2	30 1/2	30 1/2	31	31	30 7/8	33 3/4
Gas inlet dimensions in inches											
Diameter of gas inlet	R	2	2 1/2	2 1/2	3	3	3	4	4	4	4
Mounting flange to gas inlet	H	3 5/8	3 5/8	3 5/8	4 1/8	4 1/8	4 1/8	4 5/8	4 5/8	4 5/8	3 7/8

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

Technical Data

D Series

Uncontrolled Emissions Configuration (DE, DEG)

4.2 - 42.0 MM BTU/H NG; 28 - 280 GPH #2-6 OIL

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

Standard equipment:	Combustion Control System options:	Fuel options:
3450 RPM motor, panel signal lights (Power On, Main Fuel, Ignition, Flame Failure), dry oven and gasket, combustion air proving switch, high fire air proving switch, 120/1/60 control circuit, burner mounted panel, hinged blast tube with right-hand swing. Gas and gas/oil units only: butterfly rate control valve, high/low gas pressure switches, two gas shutoff cocks, main gas regulator, shipped loose gas train.	Parallel Positioning Combustion Control System with O ₂ Trim and Variable Frequency Drive (VFD)	Main Fuel: #2-5 oil - Air atomized (DM) or Combination natural gas/ #2-5 oil - air atomized (DMG). Igniter Fuel: Natural gas and/or propane. Fuel Changeover Switch: Combination gas/oil units only (DMG).

Series Features

◇ Optional Feature



	D-42 to D-105	D-145	D-175	D-210	D-282 to D-315	D-336 to D-420
Flame Safeguard						
IR Scanner	•	•	•	•	•	•
Mode of Operation						
Full Modulation Firing	•	•	•	•	•	•
Auto-Manual Firing Rate Control	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹
Ignition						
Gas/Electric Pilot and Ignition Transformer	•	•	•	•	•	•
#2 Oil Pilot	◇	◇	◇	◇	◇	◇
Oil Components						
3-Way Oil Solenoid Valve	•	•	•	•	•	•
2-Way Oil Solenoid Valve	•	•	•	•	•	•
3-Way Motorized POC Valve	◇	◇	◇	◇	•	•
2-Way Motorized POC Valve	◇	◇	◇	◇	◇	◇
Atomizing Air Proving Switch	•	•	•	•	•	•
Low Oil Pressure Switch	•	•	•	•	•	•
Burner Mounted Oil Metering System	•	•	•	•	•	•
Separately Mounted Air Compressor Module	•	•	•	•	•	•
Nozzle Line Heater with Cold Oil Lockout	•	•	•	•	•	•
Gas Components						
Motorized Valve w/o POC & Solenoid Valve	•					
Motorized Valve w/ POC & Solenoid Valve	◇	•				
Motorized Valve w/ POC (2)	◇	◇	◇	◇	◇	◇
Motorized w/ POC & Motorized w/o POC	◇	◇	•	•	•	•
Normally Open Vent Valve	◇	•	•	•	•	•

¹ Standard for full modulation; optional on select parallel positioning systems

Note: A separate oil circulating pump set is required for all DE and DEG burners. The burner mounted unit is an oil input metering device only.

Standard Ratings

D Series

DE - DEG: #2-6 Oil, Gas/Oil Configuration

	Gas Input MBH	#2-6 Oil Input GPH	BHP @ 80% Eff.	Blower Motor HP "S" ¹	Blower Motor HP "P" ²	Separate Compressor Module Motor HP 3 PH.	Oil Metering System Motor HP 3 PH.	Standard Gas Train Pipe Size (in.)	Gas Pressure Required ("w.c.") ³	Nozzle Line Heater (kw)	
Model No. & Frame Size											
D-42-1	4,200	28	100	3	3	3	1/2	2	9.2	3	208 / 230 / 460 / 3
D-54-1	5,400	36	129	3	5	3	1/2	2	15.3	3	
D-63-1	6,550	44	156	5	5	3	1/2	2	21.6	3	
D-84-2	8,400	56	200	5	7 1/2	3	1/2	2 1/2	18.0	5	
D-105-2	10,500	70	250	7 1/2	10	3	1/2	3	16.0	5	
D-145-3	15,000	100	357	15	15	3	1/2	3	2 PSI	5	
D-175-4	17,500	114	417	20	20	5	1/2	3	5 PSI	5	
D-210-5	21,000	140	500	20	25	5	3/4	3	5 PSI	7	230 / 460 / 3
D-252-6	25,200	168	600	25	30	7 1/2	3/4	3	5 PSI	10	
D-300-6	30,000	200	714	40	40	7 1/2	3/4	3	10 PSI	10	460 / 3
D-315-6	31,500	210	750	-	60	7 1/2	3/4	3	10 PSI	10	
D-336-7	33,600	224	800	-	60	7 1/2	3/4	3	10 PSI	10	
D-378-8	37,800	252	900	-	75	15	1	4	10 PSI	10	
D-420-8	42,000	280	1,000	-	75	15	1	4	10 PSI	10	

¹ Use model "S" up to 1.5" w.c. furnace pressure, consult the factory for higher pressures

² Use model "P" up to 4.0" w.c. furnace pressure, consult the factory for higher pressures

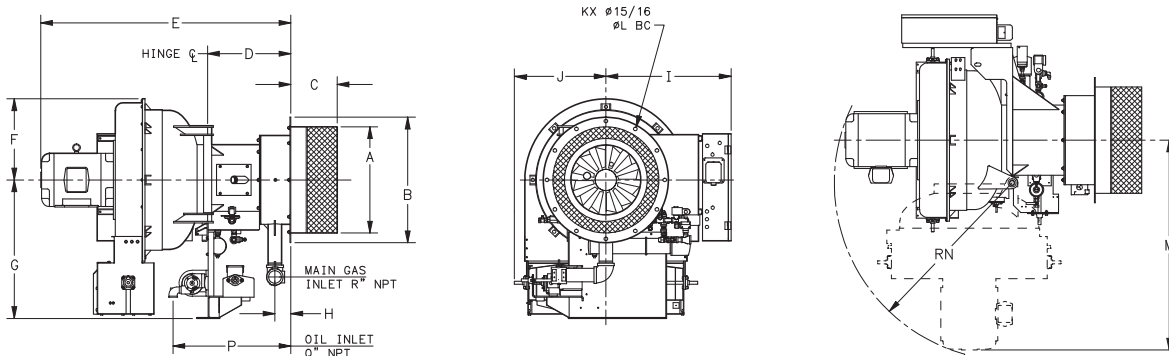
³ Standard gas pressures only, consult the factory for lower gas pressures

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. and 0.60 gravity. For total pressure at manifold, add furnace pressure. Oil input is based on 150,000 BTU/gal. Consult factory for 50 Hz. applications.

Standard Dimensions

D Series

DE - DEG: #2-6 Oil, Gas/Oil Configuration



		Burner Frame Size & Model Number									
DIM		Size 1	Size 2		Size 3	Size 4	Size 5	Size 6		Size 7	Size 8
		42-63	84	105	145	175	210	252-300	315	336	378-420
Length in inches											
Overall length	E	45 3/4	44 5/8	45 5/8	56 7/8	60	64 3/4	66 3/8	69 3/8	68 1/2	73 7/8
Width in inches											
Center line to right side	I	21 5/8	23 7/8	23 7/8	24 3/4	25 1/4	32 3/8	32 3/8	32 3/8	32 3/8	36 7/8
Center line to left side	J	17 7/8	17 5/8	17 5/8	21	22	23 3/4	23 3/4	23 3/4	23 3/4	28
Height in inches											
Center line to top	F	13	15	15	15	15	21	21	21	21	23
Center line to bottom	G	23 3/4	25 3/8	25 3/8	30 1/8	31 7/8	35 7/8	37 3/8	37 3/8	38 7/8	39 7/8
Dry oven dimensions in inches											
Diameter of dry oven	A	15 7/8	19	19	22	27 1/2	27 1/2	31 1/2	31 1/2	34 5/8	34 5/8
Depth of dry oven	C	9	10	10	12	12	12	15	15	18	18
Mounting flange dimensions in inches											
Diameter	B	22	24	24	27	32 1/2	32 1/2	37	37	40	42
Flange to hinge	D	18	18	18	21 1/2	21 1/2	21 1/2	22	22	22	24
Diameter of bolt circle	L	20 1/2	22	22	25	30 1/2	30 1/2	35	35	38	40
Number of mounting holes	K	8	12	12	12	12	12	12	12	12	12
Hinge swing dimensions in inches											
Center line to outer hinge clearance	M	32 3/4	35 3/8	36 3/8	45	50 5/8	54 3/8	56 7/8	59 7/8	60 5/8	69 1/8
Hinge swing radius	N	27 3/8	29	30	37 3/8	41 1/4	46	47 1/2	50 1/4	50 1/4	55 5/8
Oil inlet dimensions in inches											
Diameter of oil inlet	Q	3/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Mounting flange to oil inlet	P	17 7/8	27	27	30 1/2	30 1/2	30 1/2	31	31	30 7/8	33 3/4
Gas inlet dimensions in inches											
Diameter of gas inlet	R	2	2 1/2	2 1/2	3	3	3	4	4	4	4
Mounting flange to gas inlet	H	3 5/8	3 5/8	3 5/5	4 1/8	4 1/8	4 1/8	4 5/8	4 5/8	4 5/8	3 7/8

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

Technical Data

D Series

<30 PPM Low NOx Configuration (LNDG, LNDLG)

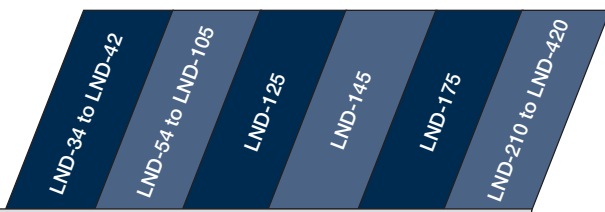
3.36 - 42.0 MM BTU/H NG; 24 - 300 GPH #2 OIL

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

Standard equipment:	Combustion Control System options:	Fuel options:
3450 RPM motor, panel signal lights (Power On, Main Fuel, Ignition, Flame Failure), FGR, dry oven and gasket, combustion air proving switch, high fire air proving switch, 120/1/60 control circuit, burner mounted panel, hinged blast tube with right-hand swing. Gas and gas/oil units only: butterfly rate control valve, high/low gas pressure switches, two gas shutoff cocks, main gas regulator, shipped loose gas train.	Parallel Positioning Combustion Control System with O ₂ Trim and Variable Frequency Drive (VFD)	Main Fuel: Natural gas (LNDG), or Combination gas/ #2 oil - air atomized (LNDLG). Igniter Fuel: Natural gas and/or propane. Fuel Changeover Switch: Combination gas/oil units only (LNDLG).

Series Features

◊ *Optional Feature*



Flame Safeguard							
UV Scanner	•	•	•	•	•	•	•
Mode of Operation							
Full Modulation Firing	•	•	•	•	•	•	•
Auto-Manual Firing Rate Control	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹	• ¹
Ignition							
Gas/Electric Pilot and Ignition Transformer	•	•	•	•	•	•	•
Oil Components							
Oil Solenoid Valve	•	•	•	•	•	•	•
3-Way Motorized POC Valve	◊	◊	◊	◊	◊	◊	•
Atomizing Air Proving Switch	•	•	•	•	•	•	•
Low Oil Pressure Switch	◊	◊	•	•	•	•	•
Burner Mounted Integral Oil/Air System	•	•	•				
Burner Mounted Oil Metering System				•	•	•	•
Separately Mounted Air Compressor Module				•	•	•	•
Gas Components							
Motorized Valve w/o POC & Solenoid Valve	•						
Motorized Valve w/ POC & Solenoid Valve	◊	•					
Motorized Valve w/ POC (2)	◊	◊	◊	◊	◊	◊	◊
Motorized w/ POC & Motorized w/o POC	◊	◊	•	•	•	•	•
Normally Open Vent Valve	◊	◊	•	•	•	•	•

¹ Standard for full modulation; optional on select parallel positioning systems

Note: A separate oil circulating pump set is required for all LNDLG burners. The burner mounted unit is an oil input metering device only.

Standard Ratings

D Series

LNDG - LNDLG: Gas, Gas/Oil Configuration

	Gas Input MBH	#2 Oil Input GPH	BHP @ 80% Eff.	Blower Motor HP	Integral Oil/Air System Motor HP 3 Phase	Separate Compressor Module Motor HP 3 Phase	Oil Metering System Motor HP 3 Phase	Standard Gas Train Pipe Size (in.)	Gas Pressure Required ("w.c.) ¹	Furnace Pressure ("w.c.)	FGR Line Piping (in.)
Model No. & Frame Size											
LND-34-1	3,360	24	80	3	1	-	-	1 1/2	19.86	5.2	6
LND-42-1	4,200	30	100	5	1	-	-	2	15.82	5.2	6
LND-54-1	5,400	38	125	5	1	-	-	2	2 PSI	5.2	6
LND-63-2	6,550	45	150	5	1	-	-	2 1/2	14.87	5.2	6
LND-74-2	7,350	53	175	7 1/2	1	-	-	2 1/2	20.71	5.2	6
LND-84-2	8,400	60	200	10	1	-	-	3	2 PSI	5.2	6
LND-105-3	10,500	75	250	15	2	-	-	3	19.56	5.2	6
LND-125-3	12,600	90	300	15	2	-	-	3	2 PSI	5.2	8
LND-145-4	15,000	105	350	20	-	5	1/2	3	2 PSI	5.2	8
LND-175-5	17,500	120	400	25	-	5	1/2	3	3 PSI	5.2	8
LND-210-6	21,000	150	500	30	-	5	3/4	3	3 PSI	5.2	8
LND-252-6	25,200	180	600	40	-	7 1/2	3/4	3	10 PSI	5.2	10
LND-300-6.5	30,000	215	714	60	-	7 1/2	3/4	3	10 PSI	5.2	10
LND-315-7	31,500	225	750	60	-	7 1/2	3/4	3	10 PSI	5.2	10
LND-336-8	33,600	240	800	75	-	15	1	3	10 PSI	5.2	10
LND-378-8	37,800	270	900	75	-	15	1	4	10 PSI	5.2	10
LND-420-8	42,000	300	1,000	75	-	15	1	4	10 PSI	5.2	10

208 / 230 / 460 / 3

230 / 460 / 3

460 / 3

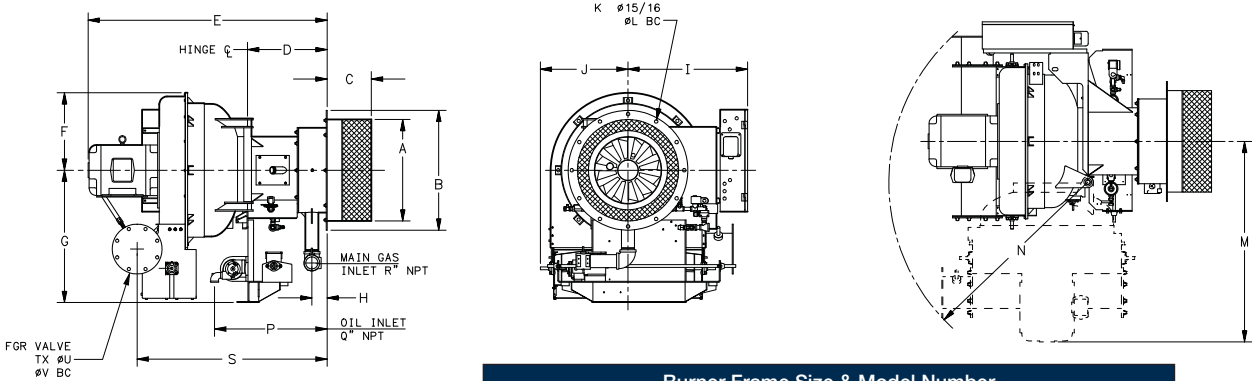
¹ Standard gas pressures only, consult the factory for lower gas pressures

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. and 0.60 gravity. For total pressure at manifold, add furnace pressure. Oil input based on 140,000 BTU/gal. Consult factory for 50 Hz. applications.

Standard Dimensions

D Series

LNDG - LNDLG: Gas, Gas/Oil Size 1 - 4 Configuration



Burner Frame Size & Model Number

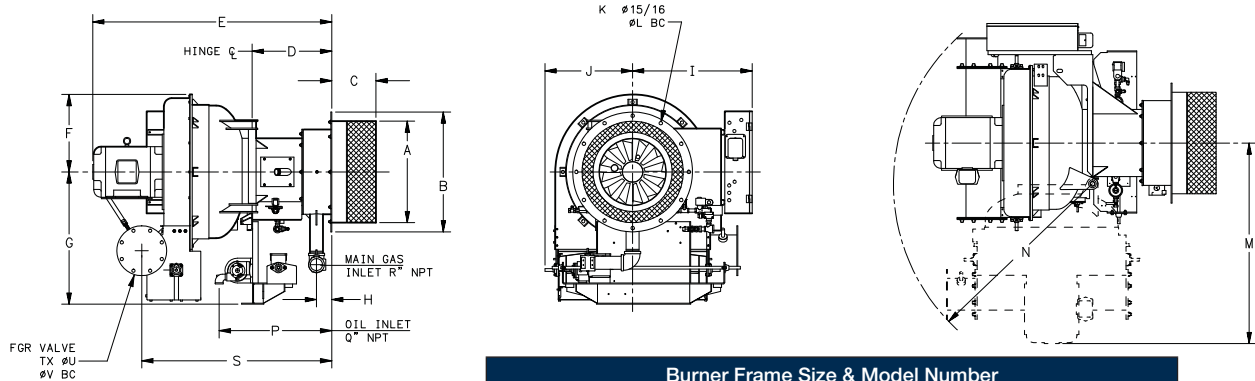
DIM	Burner Frame Size & Model Number						
	34	42	54	63 - 84	105 - 125	145	
Length in inches							
Overall length	E	46 5/8	46 5/8	46 5/8	48 1/4	56 7/8	60
Width in inches							
Center line to right side	I	21 5/8	21 5/8	21 5/8	23 7/8	24 3/4	25 1/4
Center line to left side	J	17 7/8	17 7/8	17 7/8	17 7/8	20 5/8	21 5/8
Height in inches							
Center line to top	F	13 5/8	13 5/8	13 5/8	15	15	15
Center line to bottom	G	24 5/8	24 5/8	24 5/8	25 3/8	30 1/8	31 7/8
Dry oven dimensions in inches							
Diameter of dry oven	A	15 7/8	15 7/8	15 7/8	19	22	27 1/2
Depth of dry oven	C	9	9	9	10	12	12
Mounting flange dimensions in inches							
Diameter	B	22	22	22	24	27	32 1/2
Flange to hinge	D	18	18	18	18	21 1/2	21 1/2
Diameter of bolt circle	L	20 1/2	20 1/2	20 1/2	22	25	30 1/2
Number of mounting holes	K	8	8	8	12	12	12
Hinge swing dimensions in inches							
Center line to outer hinge clearance	M	36 1/8	36 1/8	36 1/8	38 5/8	45	50 5/8
Hinge swing radius	N	36 7/8	36 7/8	36 7/8	39 1/4	47 3/8	49 5/8
Oil inlet dimensions in inches							
Diameter of oil inlet	Q	3/4	3/4	3/4	1 1/4	1 1/4	1 1/4
Mounting flange to oil inlet	P	17 7/8	17 7/8	17 7/8	27	30 1/2	30 1/2
Gas inlet dimensions in inches							
Diameter of gas inlet	R	2	2	2	2 1/2	3	3
Mounting flange to gas inlet	H	3 7/8	3 7/8	3 7/8	3 5/8	4 1/8	4 1/8
Flue gas recirculation (FGR) in inches							
Center line of FGR to mounting flange	S	41 1/2	41 1/2	41 1/2	42 3/4	47 7/8	50
Number of mounting holes	T	16	16	16	16	16	16
Bolt hole diameter	U	3/4	3/4	7/8	7/8	7/8	7/8
Bolt circle diameter	V	7 1/2	7 1/2	9 1/2	9 1/2	9 1/2	11 3/4

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

Standard Dimensions

D Series

LNDG - LNDLG: Gas, Gas/Oil Size 5 - 8 Configuration



Burner Frame Size & Model Number

DIM	Burner Frame Size & Model Number						
	Size 5	Size 6	Size 6.5	Size 7	Size 8		
	175	210	252	300	315	336 - 420	
Length in inches							
Overall length	E	64 3/4	66 3/8	66 3/8	69 3/8	68 1/2	73 7/8
Width in inches							
Center line to right side	I	32 3/8	32 3/8	32 3/8	32 3/8	32 3/8	36 7/8
Center line to left side	J	23 3/4	23 3/4	23 3/4	23 3/4	23 3/4	28
Height in inches							
Center line to top	F	21	21	21	21	21	23
Center line to bottom	G	35 7/8	37 3/8	37 3/8	37 3/8	38 7/8	39 7/8
Dry oven dimensions in inches							
Diameter of dry oven	A	27 1/2	31 1/2	31 1/2	31 1/2	34 5/8	34 5/8
Depth of dry oven	C	12	15	15	15	18	18
Mounting flange dimensions in inches							
Diameter	B	32 1/2	37	37	37	40	42
Flange to hinge	D	21 1/2	22	22	22	22	24
Diameter of bolt circle	L	30 1/2	35	35	35	38	40
Number of mounting holes	K	12	12	12	12	12	12
Hinge swing dimensions in inches							
Center line to outer hinge clearance	M	54 3/8	56 7/8	56 7/8	59 7/8	60 5/8	69 1/8
Hinge swing radius	N	54	58	58	59	59 5/8	68 5/8
Oil inlet dimensions in inches							
Diameter of oil inlet	Q	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
Mounting flange to oil inlet	P	30 1/2	31	31	31	30 7/8	33 3/4
Gas inlet dimensions in inches							
Diameter of gas inlet	R	3	4	4	4	4	4
Mounting flange to gas inlet	H	4 1/8	4 5/8	4 5/8	4 5/8	4 5/8	3 7/8
Flue gas recirculation (FGR) in inches							
Center line of FGR to mounting flange	S	51 1/2	51 5/8	52 7/8	54 3/8	53 1/2	63
Number of mounting holes	T	16	16	24	24	24	24
Bolt hole diameter	U	7/8	7/8	1	1	1	1
Bolt circle diameter	V	11 3/4	11 3/4	14 1/4	14 1/4	14 1/4	14 1/4

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



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