



# Product Information

**Model: LNDG, LNDLG, < 20 ppm**  
**Burner Sizes: 210, 252, 300, 315**

## GENERAL DESCRIPTION

The LND20/Series gas, oil, and combination gas/oil burner is a forced draft packaged burner system. A backward curved aluminum impeller mounted in a machined housing provides combustion air for various furnace pressures or high altitude applications. The air housing is hinged for convenient inspection or service of the firing head components.

Oil firing features a low pressure air atomizing design. A positive displacement oil metering unit, rotary vane air compressor, and air atomizing nozzle are integral parts of this system. The positive displacement oil metering unit is not affected by changes in oil temperature or viscosity.

The LND20 feature a dual gas manifold construction to control inner and outer gas spuds independently for better flame density and shape. Each zone is controlled by a butterfly control valve and 14 point UL listed cam. Gas ports located behind the diffuser provide a pre-mix zone with combustion air and F.G.R. Gas ports located ahead of the diffuser provide efficient mixing for flame retention.

Flue gas recirculation (FGR) is drawn through the burner blower assembly properly sized for the required NOx emission levels. An FGR control valve is positioned by the FGR system to provide FGR at all firing rates. An FGR shutoff valve is placed in the FGR line as part of a safety system. This shut-off valve prevents combustible gases from being drawn into the boiler furnace prior to pilot and main flame ignition. Proper operation of this system is proven by three (3) electrical safety interlocks. The system is equipped with ANSI flanges to allow easy installation into the FGR piping.

The LND20 Series is guaranteed to provide less than 20 ppm NOx, corrected at 3% O2 dry, and less than 50 ppm CO, throughout the firing range when firing natural gas.

Listed by Underwriters Laboratory. CSD-1, I.R.I., F.M., C.S.A. and other regulatory agency control options are available. Every burner is assembled, wired, and tested at the factory.

## U.L. STANDARD EQUIPMENT

### A. CONTROLS

1. 120/1/60 control circuit
2. Burner mounted control panel
3. Motor starter(s)
4. Panel signal lights (4) (See Note 4)
5. Full Modulation with manual potentiometer (135 ohm)
6. Fuel changeover switch (combination gas/oil models)
7. Flame safeguard controls (See Note 1)
8. Combustion air proving switch
9. High fire air interlock switch

### B. OIL SYSTEM

1. Burner mounted oil metering system
2. Separate air compressor module
3. Air/lube oil reservoir
4. Fuel oil strainer (burner)
5. Oil solenoid valve (LND210)
6. S.S.O. oil solenoid valve with relief valve
7. 3-way motorized oil valve (LND252-315)
8. Atomizing air interlock switch
9. Low oil pressure switch

### C. MAIN GAS SYSTEM (See Note 2)

1. Butterfly rate control valves (2)
2. One motorized valve with closure interlock and one standard motorized valve
3. Gas shutoff cocks (2)
4. Main gas regulator
5. High and low gas pressure switches
6. N.O. vent valve

### D. GAS PILOT SYSTEM

1. Gas-electric interrupted pilot
2. Shutoff cock
3. Separate pilot regulator and valve

### E. OTHER EQUIPMENT

1. 3450 rpm blower motor and aluminum impeller
2. Burner mounting flange
3. Refractory combustion cone and gasket
4. Hinged, swing-away air housing
5. Rotary air damper w/silencer
6. Bolt On Firing head
7. Cam trim U.L. listed

## NOTES

1. U.V. scanner standard.
2. All main gas line valves and accessories upstream of butterfly valve are shipped loose.
3. Standard motor voltages are 208-230-460/3/60. Totally enclosed and 50 cycle motors are optional.
4. Signal lights: Power On, Main Fuel, Ignition, and Flame Failure.
5. A separate oil circulating pump set is required for all oil and combination fuel burners. The burner mounted unit is an oil input metering device only.

**ORDERING INFORMATION (Specify)**

1. Burner voltage, phase and cycle (See Note3)
2. Control Circuit Voltage (120/1/60)
3. Burner model and actual firing rate
4. Flame Safeguard Control
5. Special Code and/or Insurance Requirements
6. Available Gas Pressure

Type of fuel determines the model designation	
<b>Model</b>	<b>Fuel</b>
LNDG	Gas
LNDLG	No. 2 Oil / Gas

CAPACITIES AND SPECIFICATIONS	BURNER SIZE			
	210P	252P	300P	315P
GAS INPUT (Mbtu/hr)(See Note 1)	14,700	16,800	21,000	25,200
OIL INPUT (U.S.G.P.H.)(See Note 2)	105	120	150	180
BOILER HP @ 80% EFF.(See Note 3)	350	400	500	600
GAS MANIFOLD PRESSURE (in.W.C.)(See Note 4)	12	11	15	11
BLOWER MOTOR HP (See Note 5)	25	30	40	40
OIL METERING UNIT MOTOR HP	3/4	3/4	3/4	3/4
AIR COMPRESSOR MOTOR HP	5	5	7.5	7.5
INTEGRAL AIR/OIL UNIT MOTOR HP	-	-	-	-
APPROX. SHIPPING WEIGHT (Lbs)	2,600	2,830	3,100	3,300
F.G.R. LINE PIPING SIZE (Inches)	8	8	10	10

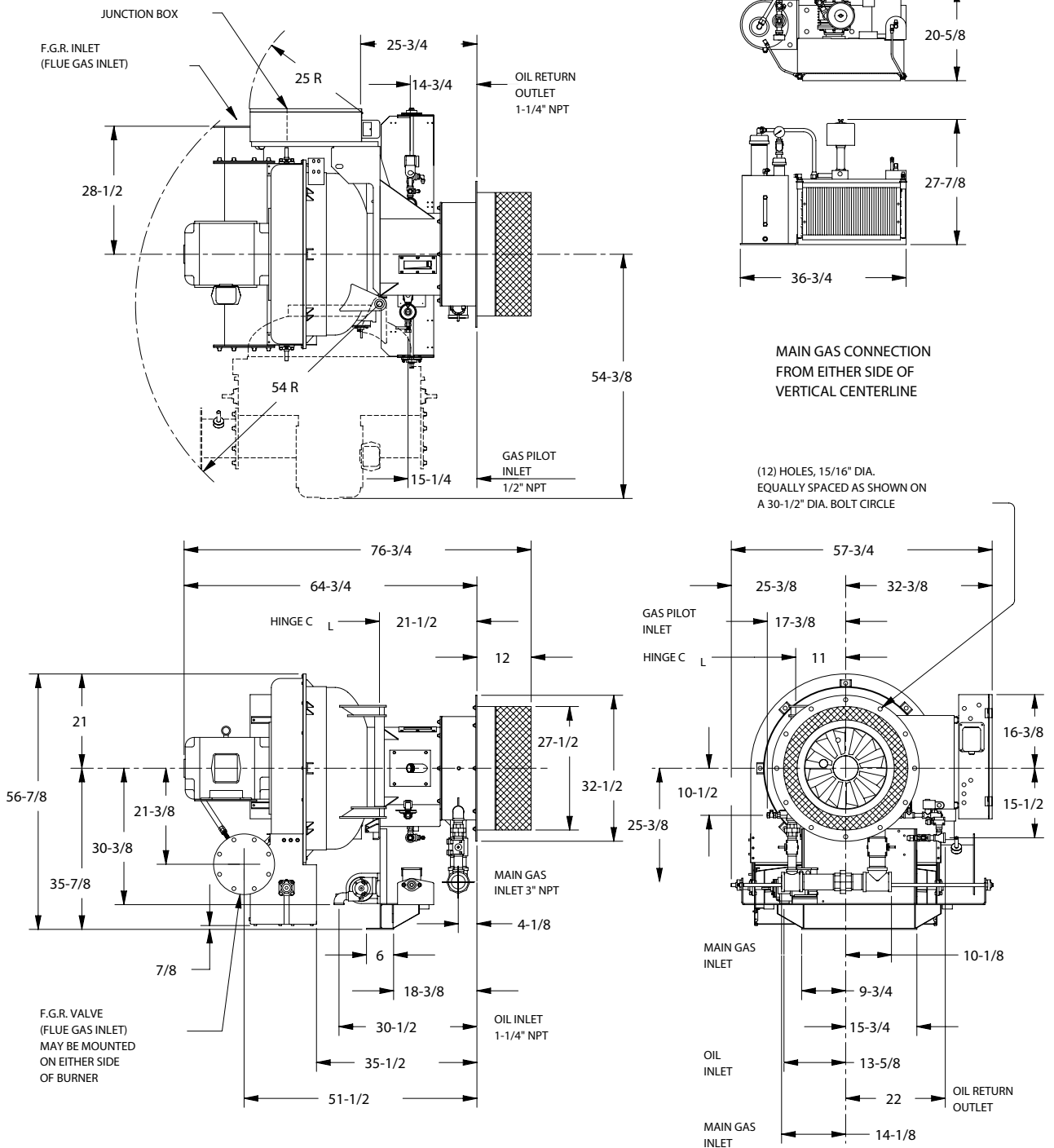
Notes:

1. Gas input based on natural gas at 1,000 Btu/cu.ft. and 0.60 gravity.
2. Oil input based on NO. 2 oil at 140,000 Btu/gal.
3. Boiler overall efficiency of 80% estimated.
4. Gas pressure based on zero furnace pressure. For total pressure at manifold, add furnace pressure.
5. Impeller and motor HP is based on altitude up to 2,000 ft. above seal level.  
For higher altitude or 50 Hz applications, consult factory.  
Use model "S" up to 1.5" w.c. furnace pressure  
Use model "P" up to 4" w.c. furnace pressure  
Standard motor voltages are 208-230-460/3/60

## GENERAL DIMENSIONS

CONTROL PANEL DIMENSIONS: 24-1/2" x 27-1/2" x 6-1/2"  
 JUNCTION BOX DIMENSIONS: 14-1/8" x 16-1/8" x 7-3/8"

SEPARATE COMPRESSOR DIMENSIONS



NOTE:  
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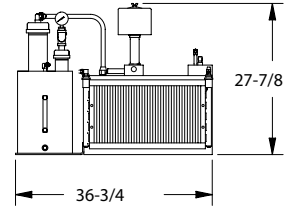
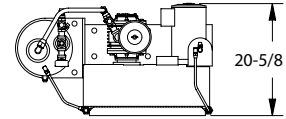
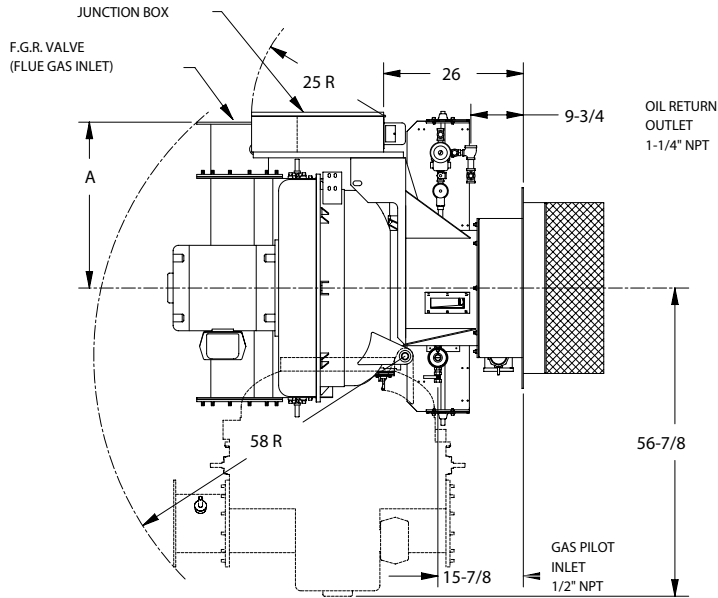
DIMENSION DIAGRAM  
 LNDLG-20 SERIES 210

570-0083

GENERAL DIMENSIONS

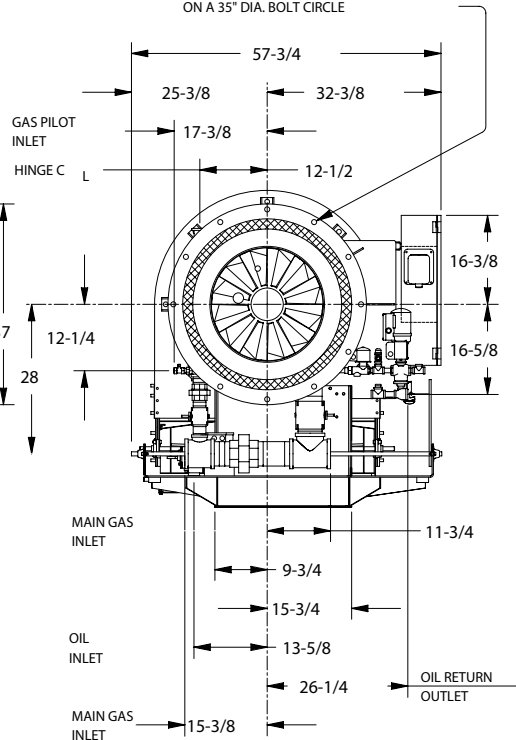
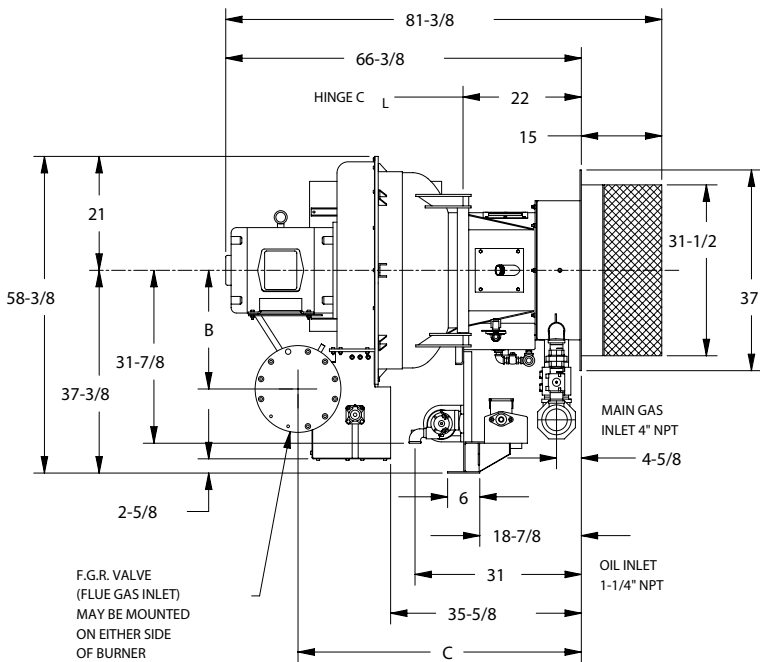
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SEPARATE COMPRESSOR DIMENSIONS



MAIN GAS CONNECTION FROM EITHER SIDE OF VERTICAL CENTERLINE

(12) HOLES 15/16" DIA. EQUALLY SPACED AS SHOWN ON A 35" DIA. BOLT CIRCLE



BURNER SIZES	DIMENSIONS (INCHES)		
	A	B	C
LNDLG-252	28-1/2	21-3/8	51-5/8
LNDLG-300	30-5/8	21-7/8	52-7/8

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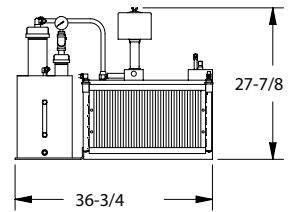
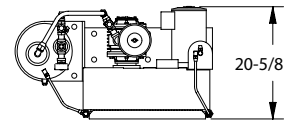
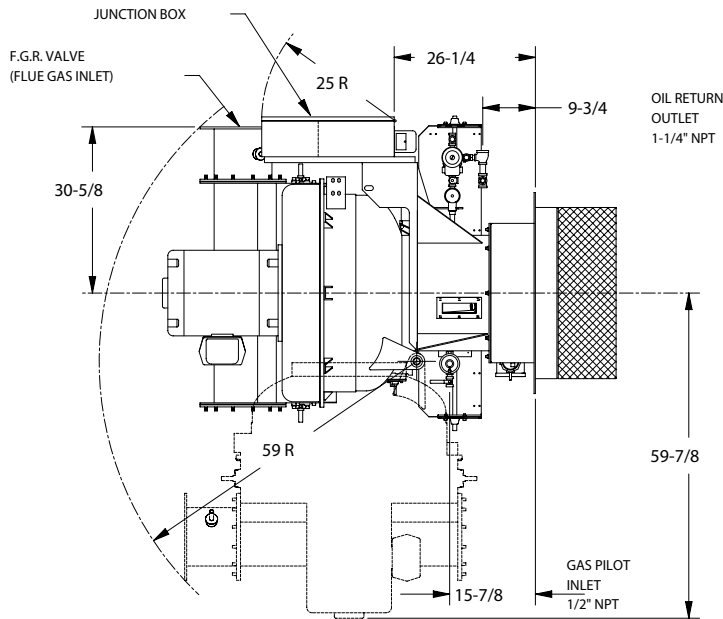
DIMENSION DIAGRAM LNDLG-20 SERIES 252, 300

570-0084

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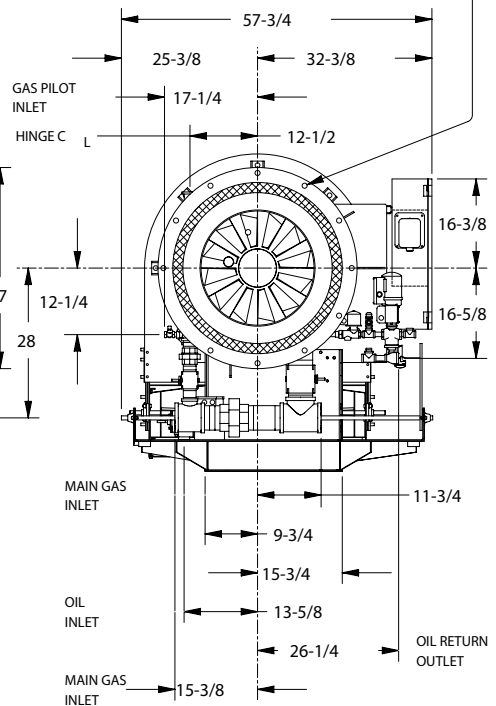
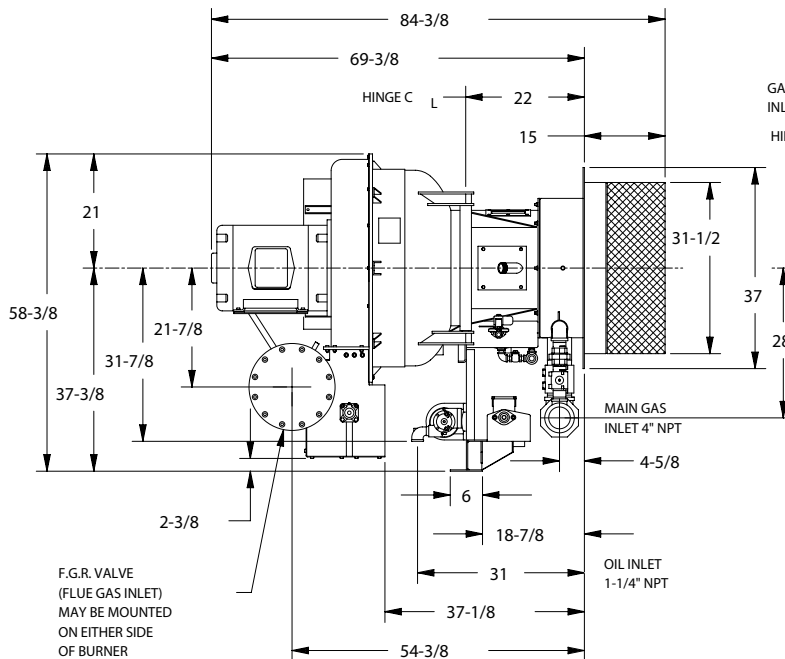
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DIMENSION DIAGRAM  
 LNDLG-20 SERIES 315

570-0085



