L&L Special
FURNACE CO, INC

XLM Series

2,100°F (1,135°C) ECONOMICAL FRONT LOADING SINGLE BURNER GAS FIRED BOX FURNACES

APPLICATIONS

The XLM furnaces are multipurpose gas fired box furnaces. They are uniform in temperature and feature accurate digital controls and a single proportionally controlled burner with a high turn-down ratio for accurate control. The burner maintains stoichiometric gas/air ratios. The XLM furnaces reach 2,100°F (1,135°C). Connected gas pressure can be as low as 4" W.C. Electrical requirements are 120 volts, 15 amps. Firing with gas can be more economical than firing with electricity. In addition, the circulation of the hot gases promotes good temperature uniformity without the use of high temperature fans. The burner can be adjusted to run lean to provide a slightly reducing atmosphere (although this can not be precisely controlled). These furnaces are excellent for ceramics processing and most metallurgical work where precise atmosphere control is not required. They are particularly useful where fumes need to be vented from the furnace, such as in wax burnout work. The single package-type burner makes them an economical choice in a small to medium sized furnace.

FEATURES

ECLIPSE BURNER WITH HIGH TURNDOWN RATIO

The furnace is heated with one Eclipse Ratiomatic burner with integral air and gas butterfly valves. The burner is mounted in the furnace with a special 2,100°F burner block and holder. The blower has an 1/8 H.P. motor. This burner features a high gas turndown ratio that allows extremely good temperature control over a wide range of temperatures. All piping and controls are included. The gas system includes two solenoid shutoffs and manual shutoff valve. The control of firing rate is done with a motorized butterfly valve that controls the amount of natural gas and combustion air relative to a 4-20 milliamp signal from the temperature control. A pilot gas train is also included with needle valve for adjustment and solenoid shutoff valve. A main gas regulator and main gas shutoff valve is included. The burner is located in the back of the furnace at the top of the chamber, firing over the load. The vestibule on the top front of the furnace hangs down so that the flame does not impinge directly on the door. There is one flue at the back top. This location vs. the location of the burner makes the burner flame circulate all the way around the inside of the chamber for maximum efficiency. The burner can deliver up to 500,000 total Btu/Hr with a minimum of 10,000 Btu/Hr.

FLAME SAFETY SYSTEM

The burner is ignited with a spark plug actuated from the control panel. It includes an ultra-violet (UV) sensor and electronic flame safety. Before ignition, the system goes through a timed purge with the combustion air. A combustion air pressure switch and high/low pressure switch are included. Safety interlocks and purge condition are annunciated on the control panel.

HIGH TEMPERATURE UNIFORMITY

The furnace is uniform to within +/ 25°F (+/-12°C) above 1,200°F (650°C) within the working dimensions.

EFFICIENT CERAMIC FIBER INSULATION

The sides, back, door and top surfaces are insulated with 2,300°F ceramic fiber modules, 6" thick, 10-lb density. No asbestos is used.

STRONG CASTABLE REFRACTORY BOTTOM

The bottom is insulated with 6" of lightweight, strong and highly insulating 2,200°F castable. Loads can be directly placed on this strong bottom. Optional castable piers and ceramic, silicon carbide, serpentine or flat alloy hearth plates are available.

HEAVY DUTY CASE WITH INTEGRAL STAND

The furnace case is constructed of 10-gauge steel with structural stiffeners, lifting rings and leveling bolts. The case is primed with a high temperature (800°F) silicone-based paint and finished with heat-resistant enamel.

DOUBLE PIVOTED HORIZONTAL DOOR

The standard furnace door has two pivots that allow it to open like a parallelogram. This keeps the hot face of the door away from the operator. A door vestibule made of ceramic fiber board surrounds the door perimeter. The top vestibule drops down 6" from the top to prevent the burner flame from impinging directly on the door.

DIGITAL PID CONTROL SYSTEM WITH HIGH LIMIT

The standard control is a Honeywell UDC 2500 digital PID 3 mode tuning control. A Honeywell UDC 1200 high limit control is also included. All fuses and controls are located in a NEMA 12 panel. The thermocouple is dual Type K with an Inconel protection tube. Thermocouple break protection is included. Limit switches shut off the burner if the door is opened. All voltage is 120 volts. The furnace is fully fused. Single-point power connection.

MEETS NEC, OSHA AND FM CODES

The wiring of the furnace meets the National Electrical Code. The combustion system meets FM standards. IRI standards can be quoted as an option. The furnace meets all OSHA codes in effect at manufacture. Furnace drawings can be submitted to FM or IRI for approval.

FACTORY TESTING AND INSTRUCTIONS

The furnace is completely tested in our factory up to maximum temperature. A very complete instruction manual is included.

ONE YEAR WARRANTY

The furnace is warranted for one year except for elements and thermocouples, which are warranted for six months.

OPTIONS

- **VERTICAL DOORS:** Manual crank or pneumatic.
- **RAMP/SOAK PROGRAM CONTROLS**
- **TEMPERATURE RECORDERS:** Round and strip chart.
- **SPECIAL HEARTHS AND LOADERS:** Castable piers, silicon carbide, alloy hearths, load baskets and serpentine alloy hearths are available. Hydraulic lift fork type loaders are available.
- **ALLOY RETORTS:** For controlled atmosphere use.
- **ON-SITE STARTUP SERVICE**

SPECIFICATIONS

Model Number	Working Dimensions			Inside Dimensions			Outside Dimensions			Max Load Lbs	Ship Weight
	W	H	D	W	H	D	W	H	D		
XLM 224	24	22	24	26	28	29	56	68	60	500	2,000
XLM 246	24	22	36	26	28	41	56	68	72	750	2,400
XLM 248	24	22	48	26	28	53	56	68	84	1,000	2,900
XLM 272	24	22	72	26	28	77	56	68	108	1,500	3,700
XLM 3336	30	28	36	32	34	41	62	74	72	900	2,900
XLM 3348	30	28	48	32	34	53	62	74	84	1,250	3,300
XLM 3372	30	28	72	32	34	77	62	74	108	1,875	4,300
XLM 3636	36	34	36	38	40	41	68	80	72	1,125	3,200
XLM 3648	36	34	48	38	40	53	68	80	84	1,500	3,800
XLM 3672	36	34	72	38	40	77	68	80	108	2,250	4,900

Dimensions are in inches. Weight is in pounds. Specifications are subject to change without notice.

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