

GAS OR OIL LIFT OUT CRUCIBLE FURNACE

✓ **LIFT OUT FURNACE CAN BE SUPPLIED WITH EITHER AUTOMATIC GAS, AUTOMATIC OIL, OR MANUAL OIL BURNERS**



FURNACE DESCRIPTION

The steel furnace casing is lined with 60% alumina firebricks backed with high-grade insulation. The swing-aside cover of the furnace has a central exhaust which deflects the exhaust flame over the top of the crucible to preheat the solid charge. For melting bulky or volatile scrap, a special cover is available with an enlarged exhaust orifice to accommodate a muffle ring. On the manual oil furnace, the top of the furnace and the air and fuel controls are all placed at a convenient height for ease of operation.

PERFORMANCE DATA

METAL	ALUMINIUM TO 720°C				BRONZE TO 1150°C				COPPER TO 1200°C				CAST IRON* TO 1400°C			
Lift Out Furnace Size	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Capacity	8	20	35	60	25	60	100	150	25	60	100	150	20	50	80	135
Oil-Firing Time for First Heat (minutes)	10	13	15	20	25	30	40	45	30	40	45	50	50	60	80	90
Time for Subsequent Heat (minutes)	7	10	12	15	20	25	30	35	25	30	35	40	45	55	65	75
Fuel Consumption Subsequent Heat (litres)	2	4	5	8	4	7	10	15	6	9	12	19	14	21	25	42
Gas Firing Time for First Heat (minutes)	10	13	20	25	30	35	45	50	35	40	55	65	Not Applicable.			
Time for Subsequent Heat (minutes)	7	10	15	20	25	30	40	45	30	35	45	55				
Fuel Consumption kcal x 10 ⁴	2.30	3.00	4.00	9.20	5.00	7.50	12.50	18.50	6.30	9.70	13.50	24.00				
Subsequent Heat (therms)	0.85	1.25	1.60	3.70	2.00	3.00	4.90	7.40	2.50	3.85	5.30	9.60				

*Only for manual oil versions.

Above data based on optimum foundry conditions. For normal foundry operations a performance of 90% of these ratings is typical.

Performance data for the size 5 is available on request.

BURNER EQUIPMENT

For oil firing the burner is of low air pressure type and is suitable for firing with most grades of oil provided, where necessary, they are preheated so that the viscosity at the burner does not exceed 1.25° Engler at 50°C (35 seconds Redwood no.1). Oil pressure at the burner should be 1.4kg to 0.6kg/cm².

For gas firing, the burners are of low air pressure nozzle mix type and are suitable for burning most clean gaseous fuels. They are selected subject to temperature requirement:

Natural Gas 9,000 kcal/m³ (1,000 Btu/ft³)

Propane Gas 22,000 kcal/m³ (2,500 Btu/ft³)

Butane Gas 28,000 kcal/m³ (3,200 Btu/ft³)

Gas pressure at the governor should be 150mm to 560mm w.g.

METHOD OF OPERATION

For the two smaller furnaces, the crucible is drawn by using 'T' shaped tongs. For the larger furnaces, a hoist or crane is necessary, using either straight reined or chain tongs.

SIZE RANGE

Lift Out furnaces are available in five standard sizes to give capacities from 8kg to 60kg aluminium and from 25kg to 150kg bronze.

INSTALLATION

The furnace is supplied complete and only requires to be connected to fuel and electricity supplies. Furnace sizes 1 and 2 can be operated standing on ground level, but it is recommended that sizes 3, 4 and 5 are installed in a pit. In all cases a spilt metal pit should be provided.

HIGH TEMPERATURE LIFT OUT

For temperatures over 1100°C the lift out automatic H.T. versions are supplied instead. They permit temperatures up to 1250°C for gas and 1400°C for oil to be attained. They are fitted with robust nozzle mix burners and stand alone combustion air fans. The fuel and air controls automatically determine the ratio and the firing rates. Flame safeguard monitoring is provided through UV detection. The oil version requires a small gas supply to provide the ignition source, which can be bottled LPG if necessary.

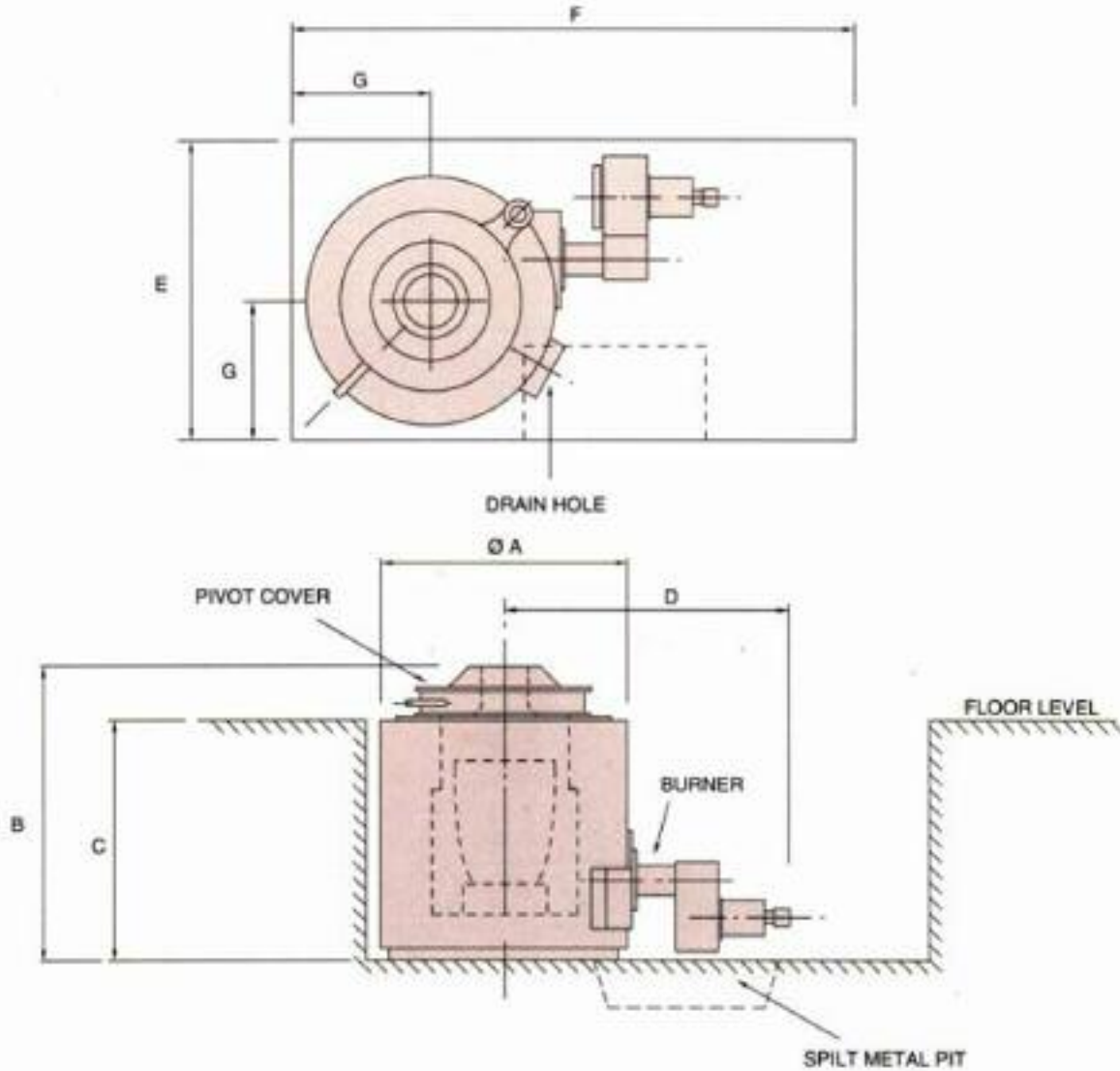


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Morgan
Molten Metal Systems

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SPECIFICATIONS

		L01	L02	L03	L04	L05
CRUCIBLE		CX40 / AX20	CX120 / AX60	CX200 / AX100	CX350 / AX150	CX400
FURNACE DIMENSIONS (mm)	A	640	745	795	895	895
	B	705	850	960	1220	
	C	598	706	802	905	
	D	860	913	937	990	990
	E	786	896	928	1008	1008
	F	1660	1766	1815	1918	1918
	G	360	413	438	488	488
SHIPPING (approximate)						
NETT WEIGHT	kg	500	710	920	1220	
GROSS WEIGHT	kg	560	760	1020	1320	
VOLUME	m³	.69	.96	1.38	1.69	

CX shapes are taller and narrower than AX shapes and hence more suitable for high temperature metal melting (ie. copper and cast iron).



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