

# GAS OR OIL CENTRAL AXIS TILTING FURNACE



- ✓ **GENERAL PURPOSE MELTING FOR MOST ALUMINIUM AND COPPER ALLOYS. ALSO SUITABLE FOR BATCH MELTING OF CAST IRON**
- ✓ **SUPPLIED ARRANGED FOR TOTALLY ENCLOSED MELTING AS STANDARD**

The metal is fully protected by the crucible from the flame, thereby ensuring minimum metal losses from oxidation. When rapid melting is required, slots can be made in the crucible to allow the exhaust gases to preheat the solid charge before melting commences.

## FURNACE DESCRIPTION

The steel furnace casing is lined with high grade refractories, backed by insulation, to suit the application and is designed to accommodate MORGANITE Salamander crucibles and stands. Central Axis pouring is achieved by tilting the furnace body about a central point by means of a conveniently placed hand-wheel. Molten metal is poured over the top of the crucible into the transfer ladle. Instead, the furnace can be fitted with a spouted crucible and muffle ring. Exhaust gases pass through a number of ports in the refractory cover around the crucible. Alternatively, the furnace can be fitted with a back exhaust.

## SIZE RANGE

- **Size 1:** 22 Kg Aluminium, 70 Kg Bronze, 55 Kg Cast Iron\*
- **Size 2:** 35 Kg Aluminium, 120 Kg Bronze, 80 Kg Cast Iron\*
- **Size 3:** 60 Kg Aluminium, 200 Kg Bronze, 160 Kg Cast Iron\*
- **Size 4:** 95 Kg Aluminium, 300 Kg Bronze, 240 Kg Cast Iron\*

All figures given are nominal capacities only, if the furnace is overloaded above these figures melting times and fuel consumption will increase pro-rata.\*

## PERFORMANCE DATA

Metal Furnace Size		Aluminium				Bronze				Cast Iron*			
		1	2	3	4	1	2	3	4	1	2	3	4
Capacity	kg	22	35	60	95	70	120	200	300	55	80	160	240
	lb	50	75	130	210	150	250	425	650	120	175	350	525
Time for first heat	min	35	40	45	55	65	70	75	95	140	150	160	180
Time for subsequent heat	min	25	30	35	40	40	45	55	70	105	115	125	130
Oil consumption	litres	6	7	12	19	12	16	27	38	68	77	95	100
Subsequent heats	gallons	1.3	1.5	2.8	4	2.5	3.5	6	8.5	15	17	21	22
Gas consumption	kcal x 10	5.5	6.3	12	17	11	15	25	35	Not Recommended			
Subsequent heats	therms	2.2	2.5	4.6	6.6	4.2	5.8	9.9	14				
Pouring temperature	°C	720				1150				1400			

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

\*Furnace fitted with modified burner and supplied with combustion air from a high pressure fan. Performances are based upon the use of MORGANITE Crucibles.



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## KEY FEATURES

### BURNER EQUIPMENT

The furnace can be supplied for oil or gas firing. For oil firing the burner is of the low air pressure type and is suitable for firing with most grades of oil provided, where necessary, that 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 0.4kg to 0.6kg/cm<sup>2</sup> (5lb to 8lb/in<sup>2</sup>).

For gas firing, the burner is of the low air pressure nozzle mix type and is suitable for burning most clean gaseous fuels:

<b>Natural Gas</b>	9,000 kcal/m <sup>3</sup>	(1,000 Btu/ft <sup>3</sup> )
<b>Propane</b>	22,000 kcal/m <sup>3</sup>	(2,500 Btu/ft <sup>3</sup> )
<b>Butane</b>	28,000 kcal/m <sup>3</sup>	(3,200 Btu/ft <sup>3</sup> )

Gas pressure at the governor should be 22mbar to 50mbar.

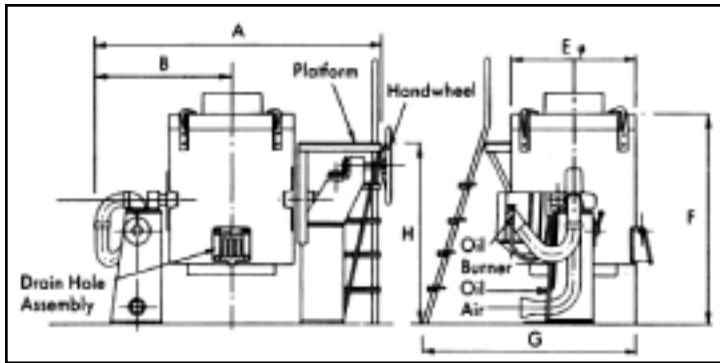
A separate fan is supplied to provide combustion air. If required, a battery of furnaces can be supplied with combustion air from one large fan. For melting cast iron and other high temperature applications (oil fired only) a modified burner and high pressure fan are recommended. Gas fired furnaces are not recommended for metal temperature in excess of 1200°C.

### INSTALLATION

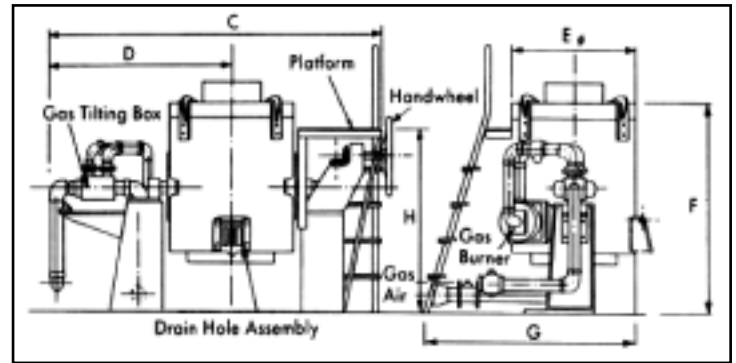
The furnace is supplied assembled and requires bolting down to a suitable concrete floor and connection to air, fuel and electricity supplies. Gas supply is required for burner pilot.

### OPTIONS AVAILABLE

High pressure fan and manual oil burner for high temperature melting.



▲ Manual Oil Fired Furnace.



▲ Manual Gas Fired Furnace.

## SPECIFICATIONS

		SIZE 1	SIZE 2	SIZE 3	SIZE 4
<b>BRONZE CAPACITY</b>		70 kg	120 kg	200 kg	300 kg
<b>FURNACE DIMENSIONS (mm)</b>	<b>A</b>	1700	1700	2000	2000
	<b>B</b>	940	940	955	990
	<b>C</b>	1900	1900	2285	2300
	<b>D</b>	1220	1220	1220	1220
	<b>E</b>	800	800	850	930
	<b>F</b>	1170	1170	1385	1385
	<b>G</b>	—	—	1475	1560
	<b>H</b>	—	—	1190	1255
<b>SHIPPING (approximate)</b>					
<b>NETT WEIGHT</b>	<b>kg</b>	1070	1120	1470	1680
<b>GROSS WEIGHT</b>	<b>kg</b>	1420	1470	1780	1980
<b>VOLUME</b>	<b>m<sup>3</sup></b>	3.17	3.17	4.93	5.68

\*Furnace fitted with modified burner and supplied with combustion air from a high pressure fan.



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