

MORGAN MKV MINI HLP GAS OR OIL TILTING FURNACE

FURNACE DESCRIPTION

The Mini HLP gas/oil fired, hydraulic, lip axis pouring, tilting, furnace, provides an efficient and simple way, to melt a wide range of metals and alloys up to 1250°C. Molten metal is discharged from the crucible spout when tilting, enabling a pouring ladle to remain in one position.

The robust, high alumina brick lining, gives excellent high temperature melting performance from the compact gas or oil burner. The gas burner is arranged to tilt with the furnace and therefore can continue firing during the pouring cycle if required.

The insulation materials used in the furnace lining result in low casing temperatures, provide comfortable and safe working conditions.

The furnace body is tilted by twin hydraulic cylinders, pressurised by the supplied motor driven power pack and filled with a non flammable fluid.

BRICK LINING

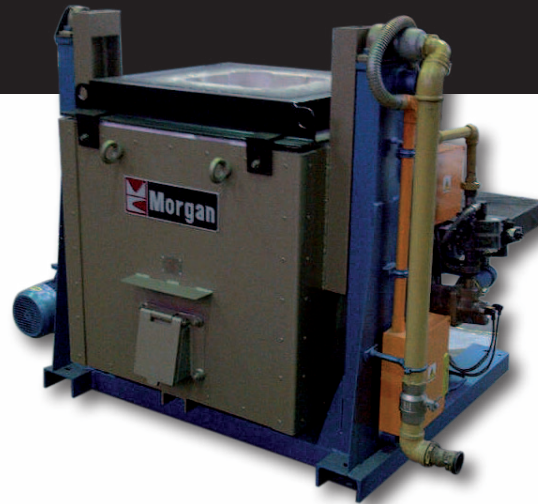
High alumina side arch bricks, surround the crucible, extending to the full depth of the furnace chamber, offering high chemical resistance and good service life. The hot face bricks are contained within graded insulation layers, to minimise thermal losses from the furnace body and provide comfortable working conditions.

CONSTRUCTION

The furnace is constructed from heavy duty steel plate and sections to provide a robust tilting furnace suited to foundry applications. The body is tilted at the crucible pouring lip axis, by twin hydraulic cylinders.

FURNACE CAPACITY

The Mini gas/oil fired, tilting furnace range, using crucibles TPX235, TPX176, TPX400 and TPX843 spouted crucible patterns, are available for copper based alloys from 56Kg. up to 305Kg and aluminium up to 95Kg.



MINI HLP 04, 13, MMP reserve the right to change specs. at any time and are not responsible for typographical errors

BURNER EQUIPMENT

The oil version uses a medium or high pressure, air atomising burner suitable for standard fuel oils. It requires a small gas supply for this type, in order to provide an ignition source.

The gas fired furnace for temperatures up to 1250°C, the burner is a medium air pressure, nozzle mix type. Both versions have a dedicated fan, mounted to the furnace body. All burners are automatic, start, stop, with flame failure detection and conform to, CE EN746/2.

FUEL TYPES

The furnace is available for the following gaseous fuels:

Natural Gas:	9000 kcals/M ³
Propane:	22000 kcals/M ³
Butane:	28000 kcals/M ³
Dynamic Pressure:	20 - 35mbar
Note:	Pressures higher than 35mbar will require additional regulation
Standard Electrical Supply:	400/415v 3ph. 50hz.

- Temperatures up to 1250°C
- Small and Self Contained

MORGAN MKV MINI HLP GAS OR OIL TILTING FURNACE

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KEY FEATURES

ADVANCED DESIGN

The Mini HLP Tilting furnace is compact, of robust design and comes complete with: control panel, interconnecting cables, hydraulic power pack and tilt controls. The furnace is supplied with burner and lining to suit the melting of metals from zinc through to copper base alloys.

BURNERS

The furnace is equipped with high performance nozzle mix burners. They are arranged to tilt with the furnace and have fully automatic start up and monitoring control.

Gas burner, controls and safeguards, conform to European safety standard EN746 and other world standards.

EXHAUST

The furnace is arranged to exhaust from a rear of cover port, thus preventing exhaust gasses coming into contact with the charge materials. Various arrangements can be offered to make connection with extraction systems if required.

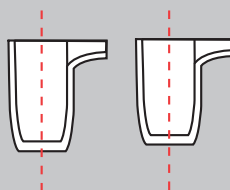
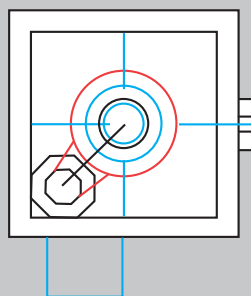
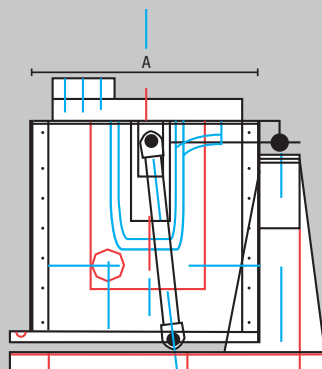
CONTROL PANEL

A modern high quality control panel provides the following features:

- Protective circuit breaker, door interlocked.
- Indicating lamps and control switches.
- Fully approved, flame failure controller.
- Hydraulic pump stop / start controls.

HYDRAULIC TILTING

The furnace is tilted at it's lip axis, by twin enclosed hydraulic cylinders. The tilt speed is preset and is actuated by a manual control lever mounted to the furnace tilting frame. Optionally push button controls can be specified. Pressure is supplied from a free-standing heavy duty, hydraulic power pack, ready filled with water glycol, non-flam fluid. The cylinders are fitted with flow checks to control the descent speed, even in the event of pipe or hose failure.



TYPICAL PERFORMANCE

METAL	ALUMINIUM 720c				BRONZE to 1150c				COPPER to 1200c				
	1	2	3	4	1	2	3	4	1	2	3	4	
Furnace Size													
Capacity Kg	18	38	63	100	56	115	190	305	56	115	190	305	
Oil Firing First Heat (mins)	20	30	40	55	35	55	80	115	42	66	95	130	
Subsequent Heat (mins)	10	17	25	35	25	40	60	90	29	49	70	100	
Fuel Consumption Litres, Subsequent Heat	3	6.3	10	16	7.5	15	25	42	10	18	29	47	
Gas Firing, First Heat (mins)	18	27	38	50	35	55	78	110	40	62	90	125	
Subsequent Heat (mins)	10	17	25	35	20	40	60	90	29	49	70	100	
Fuel Consumption Subsequent Heat kWh	30	63	105	165	75	150	250	420	106	180	290	470	
Gas Requirement M3/Hour N.G.	18	22	25	28	22	22	25	28	22	22	25	28	
Oil Requirement Litres/Hour	18	22	25	28	22	22	25	28	22	22	25	28	

Data based on optimum foundry conditions and practices. For typical foundry operations a performance factor of 90% of performance ratings should be assumed. Data for ther alloys available on request.

OPTIONAL PYROMETRY

A variety of metal temperature pyrometry systems can be optionally specified.

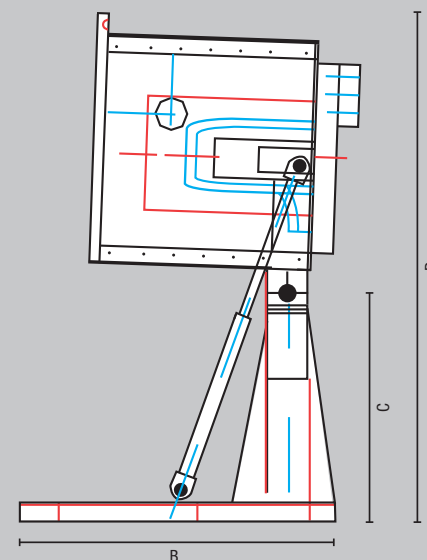
These include: fixed immersion types or for high temperature applications a dip sampling probe.

These can be used with a temperature indicator or a controller.

OPTIONAL METAL TEMPERATURE CONTROL

When specified, this option can be used to control metal temperatures up to 1050°C, sensed from, a fixed pyrometer. The dual display programmable digital controller maintains close control, by regulating the heat output from the burner, relative to actual metal temperature and set value.

For high temperature applications ie. above 1050°C, please consult with MMP engineering, for available options.



SPECIFICATIONS

Model	MINI HLP SIZE 1	MINI HLP SIZE 2	MINI HLP SIZE 3	MINI HLP SIZE 4
Crucible	TPX235	TPX176	TPX400	TPX843
Capacity Kg Brz.	56	115	190	305
Furnace Dimensions (mm)				
A	900	900	950	1005
B	1245	1245	1295	1350
C	910	910	1010	1085
D	2025	2025	2180	2310
Shipping (approx) Net Weight	Kg			
	1500	1800	1900	2200
Gross Weight	Kg			
	1700	2000	2100	2400
Volume	M3			
	2	2.5	3	3.5