

**TECHNICAL SPECIFICATIONS OF BOX TYPE MUFFLE FURNACE**

Engineering, fabrication, inspection at works, painting, packing, supply, transportation to site, installation and testing at site of electrically heated box type muffle furnace with supporting structures and control panel as detailed below.

**II. Furnace Specifications:**

2.1	Furnace Type	Rectangular box type muffle furnace, with front door and one vent port on rear.
A	Operating temperature	750°C (maximum)
B	Furnace operation	Batch.
C	Body skin temperature	Ambient + 30 deg. C at operating temperature
D	Door	Single front door with handle and locking arrangement
E	Muffle dimensions	800 mm width x 1200 mm depth x 600 mm height
F	Chamber inner dimensions	900 mm width x 1300 mm depth x 750 mm height
G	Overall outer dimensions	1650mm wide x 1900 mm depth (including the front door) x 1300 mm height on 600 mm high legs/stand.
2.2	Furnace Construction	
A	Outer shell	Mild steel. All sides 6 mm thick, front side 10 mm thick.
B	Muffle & inner surface of door	SS310. All sides 6 mm thick, bottom side 12 mm thick
C	Furnace stand	The stand should made of ISMC 75. The furnace bed should have two load members along the depth. The stand legs should be reinforced with ISA 50 cross members.
D	Exhaust port nozzle	SS310, Dia. 150 x 6mm
E	Exhaust port flange	SS310, 12 mm thick plate with drilling pattern as per ANSI B 16.5
2.3	Insulation	The furnace shall be insulated sufficiently to reduce heat losses.
A	Insulating Material	Graded ceramic bricks:- Cold face Insulation of thermal conductivity 0.19 to 0.25 W/m.K, bulk

		density not more than 800 Kg/cubic meter, and Hot face Insulation of thermal conductivity 0.30 to 0.40 W/m.K, bulk density not more than 1100 Kg/ cubic meter. Ceramic fiber wool blanket of bulk density not more than 128 Kg/ cubic meter.
B	Insulation thickness	250 mm on all sides and 300 mm at the bottom
2.4	Heating Element	Nichrome 80 : 20
A	Positioning of heating elements	Heating elements shall be provided on sides and bottom and shall be easily removable for replacement.
2.5	Furnace Power Rating	45 kw
2.6	Heating rate	350°C/ hr.
2.7	Heater power supply	415 V+/-10%, 50Hz+/-3%, 3 phase
2.8	Thermocouple positioning	Provision for mounting thermocouple shall be provided one on top of the furnace & another on the front door
2.9	Power Control	Thyristors Power control
2.10	PID Temperature controller	Digital PID temperature controller cum Indicator with 8 Programmable segments
2.11	Digital Timer	Timer
2.12	Memory back up	Where power failure occurs the temperature will start from the stopped value
2.13	Safety	Door sensor for safeguard the heating elements & Over voltage & Over current safety

## COMMERCIAL POINTS

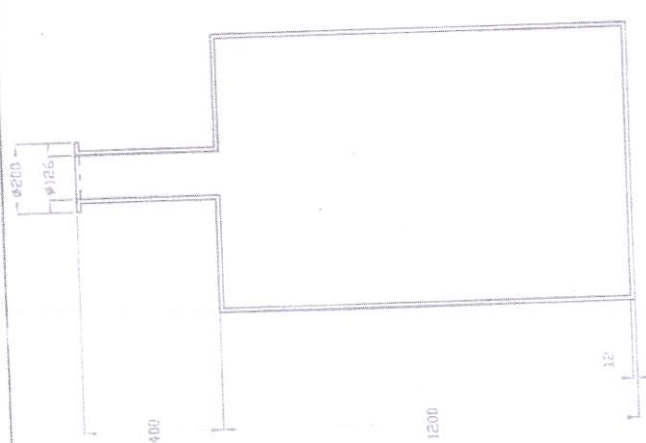
1	Price/Per Number	Rs. 8,10,000/-
3	Door Delivery Charges	Nil
4	Total for GST	Rs. 8,10,000/-
5	GST @5%	Rs. 40,500/- (Eleven Thousand Eight Hundred Only)
6	Installation Fee	Nil
7	Total Payable (Rs)	Rs. 8,50,500/-
8	Payment	100% against delivery
9	Delivery schedule	3 Months from the date <b>of receipt</b> of order at our office
10	Warranty	One year
11	Validity	60 Days

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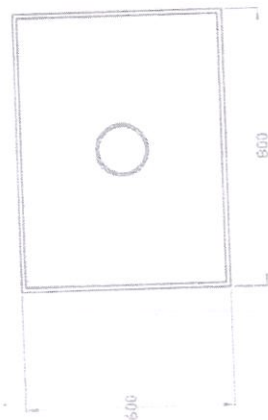


*Prachin*

*Shashank*



TOP VIEW OF MUFFLE



FRONT VIEW OF MUFFLE

NOTE:  
1) ALL DIMENSIONS ARE IN MM  
2) MATERIAL SS304  
3) ALL SHARP CORNERS SHOULD BE ROUNDED OFF

SECTION	TITLE	DESIGN	DATE
MUFF-P	MUFFLE	1-11	1-11
NO. 1	NO. 1	NO. 1	NO. 1
DATE 17-11-18	DATE 17-11-18	DATE 17-11-18	DATE 17-11-18
GOVERNMENT OF INDIA DEPARTMENT OF ATOMIC ENERGY NUCLEAR FUEL COMPLEX HYDRABAD		D-42-08-385-K3	



*Shashu*

