

THERMOCHEM FURNACES PVT.LTD.



THERMOCHEM

Plot No. 1604 , G.I.D.C, Phase IV , Wadhwan City-363035 Dist. Surendranagar (Gujarat)
Ph. No.(02752)243811,Fax :(02752)241813 E-mail :thermochemfurnace@hotmail.com

TF/2023/06/30/R0

June 30, 2023

To,
JINDAL ALUMINIUM LTD
SP 233, Riico Industrial Area,
Sohna Road,
Bhiwadi-301019
Tel: 91 9611195368;

Email: - purchase@jindalaluminium.com , brijesh@jindalaluminium.com,
rajgopal@jindalaluminium.com

Kind Attn.:- Mr. Mohan N (M - +91 8023-715-555 / 61)

Sub. : - Techno- Commercial offer for 3T Single Trolley & Single Door Type Ageing Furnace

Dear Sir,

This has reference to your mail for 3T Single Trolley Single Door Type Ageing Furnace for Aluminium Profiles. Please find herewith the offer as per the requirement.

Thanking you and assuring you of our best attention and prompt services at all times.

Regards

N.P.Sompura M:-09426215943
Hardik Sompura M :- 09601551009



Thermochem Furnaces Pvt Ltd,



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3T Single Trolley Single Door Type Aging Furnace For Aluminum Profiles.

A. Technical Specification.

Sr. No.	Description	
1	Furnace Capacity	3 MT/Batch
2	Furnace Charge Weight	Charge Weight 3 Ton Charge Support Weight 500 Kg Approx Total 3.5 Ton Approx.
	Furnace Dimension (Approx)	
3	Basket Loaded Size	Length 3648 mm Width 965 mm Height 1752 mm (876 + 876 mm)
4	Oven Inside Chamber dimensions- Approx	Length 4500 mm Width 1500 mm Inside Height 2000 mm (above trolley)
5	Over all Dimension	Length 6000 mm + (4000 mm For trolley outside the furnace) Width 1800 mm Height 5000 mm (With Door Opening)
6	Charge Material Details	Aging Aluminium Alloy Profiles
7	Electrical Supply Requirements	415V,3-Phase,50 Hz,4 Wire A.C 15 KW Recirculation Motor 2.2 KW Door-1 3.7 KW Trolley-1 Total 20.9 KW Apprx Total electric connected load :- 20.9 KW
8	Natural Gas requirement	0.5-0.8 Bar Inlet Pressure, Flow :- 100 Nm3/Hr (LNG)



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9	Water Requirement	NIL
10	Max. Furnace Air Temp	250 C
11	Furnace Normal Operating Temp	100 C – 250 C
12	Metal Temperature Uniformity	+/- 5 C at the end of Soaking
13	Skin temperature	35 °C above the ambient temperature
14	Rate of Heating	Min: - 50 °C/ Hr Apprx Max: - 200 °C/ Hr Apprx
15	Time to Reach 250 C for Aging	1.5 Hours Apprx
16	Furnace Atmosphere	Air
17	Fuel to be Used	LNG/LPG. Natural Consumption:- 15 m3/T (LNG) Apprx
18	Oven Zone	Oven have a 1 Nos control zone of both side of the oven
19	Gas Fired Burner	Furnace have the provision of 01 Nos of Gas Fired Burner with Auto ignition , flame Failure system , Combustion blower with Double solenoid valve with valve closure proving system of Honeywell/Dungs (Gas Leak Test Detection & Valve Closure proving system) Temperature Control Type :- High-Low Gas Fired Burner Capacity :- 250000 Kcal/Hr Burner Model :- Riello modulating Burner
20	Gas Train Specification	Manual Valve – DN25 Qty : 01 Nos Gas Filter T- DN25 Qty :- 01 Nos Pressure Gauge :- 01 Nos Manual Cock –DH 15R40 Regulator Type :- J125 2-4 Bar Pressure Switch :- DG Qty :- 01 Nos Pressure Gauge :- 0-250 mbar Pointer Qty :- 01 Nos Solenoid valve Model :- VAS / DUNGS



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		Tightness Control Model :- Dungs Regulator – DN 25
21	Control For gas Flow	Butterfly valve with Servo Motor Size :- DN25
22	Burner Sequence Controller	Make :- ESA Pyronices/Thermochem/Riello Ignition Transformer :- ESA Pyronices/Riello
23	Temperature Control	Through High/Low Temperature Controller fitted in the Control panel & Burner Regulator
24	Zone Thermocouple	Furnace have the following “K” type thermocouples 1-Air 03 No’s for Indicating Thermocouples 2-Air 03 No’s for Indicating thermocouples
25	Air Guide reflector	Oven have a provision of both side air flow reflector for uniform temperature of the oven.
26	Centrifugal Recirculation Fan	Furnace have the provision of 01 Nos Centrifugal mounted on the Side of the furnace. Oven have Reversible horizontal Air Flow through change over valve via charge material length wise as per below flow direction From Right to Left and Left to right direction Each rated at 15 KW VFD operated Drive Flow :- 16000 m3/Hr Pressure :- 100mmWC@50 C Impeller & Shaft Material :- S.S 304 Casing insulation :- 100 mm Ceramic fibre blanket RPM :- 1400 Apprx Speed :- VFD Control Dynamic Balancing as per ISO G6.3 Grade
27	Furnace Casing	Furnace outer body fabrication from 3mm Thick M.S Plate with suitable section.



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28	Furnace Insulation	Furnace All side walls, Roof and Bottom all will be lined with Ceramic Fibre blanket lining covered with having various density of 64 & 96 Kg/m ³ Total Thickness of insulation :- 100 mm
29	Furnace inner cladding	Furnace have the provision of 2 mm Thick galvanize sheet
30	No. of Door	01 No's
31	Door Structure	Fabricated from 3 mm Plate with Suitable Sections
32	Type of door operation	Electro mechanically operated vertical opening type
33	Door motor rating	3 HP Brake-Motor with Gear Box Induction Motor make :-Crompton/ABB Gear Box-PBGL(Elecon)
34	Door Speed	5 Mtr/Min
35	Door Insulation	Door Will be lined with 100 mm Ceramic Fiber Blanket Lining with galvanize sheet 2mm thick cladding
36	Trolley	Oven have the provision of Single trolley Trolley Capacity :- up to 3.5 Ton No of Wheel :- 06 Nos Trolley will be operated reverse/ Forward by chain socket and gear box Trolley drive by gear box with motor :-3.7 KW
37	Safety Interlocks	Following Safety interlocks will be Provided <ul style="list-style-type: none">• Broken thermocouple and over temperature protection.



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		<ul style="list-style-type: none"> All motor shall be provided with overload protection. Heating cannot start unless door is closed. Unless the door is opened, the Charging trolley cannot charge into the furnace. Unless the charging trolley is completely retracted from the furnace, the door should not close.
38	Door control limit switch	2 Nos. of Limit Switch will be provided for door up/down Position
39	Electric Power Control Panel	<p>01 No. Panel is fabricated from M.S. Sheet Power Control Panel and powder coated of Siemens Grey in housing with following electrical accessories & equipment Make:-Rittal /Eldon/Pyrotek/Pragati</p> <p>Each Furnace will have the provision of Power & Temperature Control Panel.</p> <p>→PLC will be Siemens-1200 Make</p> <p>→SCADA - Simantic Win CC will be Siemens Make</p> <p>→TIA Portal :- 15.1 version</p> <p>→VFD Drive for ACS 560 for Recirculation Blower Motor</p> <p>→ MCC with short circuit and over current trip</p> <p>→HRC Fuse Base with links will be provided</p> <p>→ Control Switches</p> <p>→ Safety Fuses</p> <p>→ Indicating Lamp Sets</p> <p>→ Auxillary Contactors</p> <p>→ Amp. & Volt Meters</p>

Purchaser Scope:-

1-POWER & CONTROL CABLES

All power and control cables excluding cable trays along with cable accessories from MCC panel to respective equipment will be provided by Purchaser.

Incoming supply from client's distribution board to individual MCC will be Supplied by Purchaser

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2-Charge Basket

3-Civil Works with Trolley track etc

4-Gas & Power Line upto Control Panel

PAINTING

We include for the following paint specification for the furnace casing and structure:

Two coats of Heat resistant Aluminum paint will be provided on all mild steel structure before DISPATCH. Final one coat of Aluminum paint will be provided after repairing of initial painting at site once cold trail of the furnace is over.

All bought out components will maintain manufacturer's standard finish painting.



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COMMERCIAL OFFER:-

Description	At Your Works Unit Price(Rs.)	Qty	Total Price (Rs.)
3T Gas Fired Single Trolley Single Door Type Ageing Furnace with Control Panel For Aluminium Profiles Without Charge Baskets Total Capacity with charge basket :- 3.5 Ton	4900000	01	4900000
Erection & Commissioning Charges To & Fro tickets, Loading & Boarding on purchaser scope	2,50,000	01	2,50,000

Thermochem Furnaces Pvt.Ltd.

Director



Plot No. 1604 , G.I.D.C, Phase IV , Wadhwan City-363035 Dist. Surendranagar (Gujarat)
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Terms & Conditions:-

PRICE BASIS	At your Works Bhiwadi
FREIGHT	Paid Basis
PACKING & FORWARDING	30000/-Rs Extra
GST	18% Extra
TRANSIT INSURANCE	Has to be arranged by Purchaser. However we will immediately dispatch the particulars
DELIVERY TIME	Within 6 Months The above time schedules are from the date of receipt of your order technically and commercially clear in all respects & timely approval of GA and Layout drawings. The delivery has been offered with good faith subject to force measure conditions.
PAYMENT TERMS	40% as advance along with the order. 50% of Ex-works value+100% taxes & duties after pre dispatch inspection and prior to dispatch. 10% after commissioning
ERECTION & COMMISIONING PAYMENT	30% as advance at time of deputation of man power. 30% after 50 % work Completion 30 % after 75% work completion 10% after 100 % work completion
WARE HOUSE CHARGES	If Furnaces delivery has not been taken within 30 days after readiness of furnace Ware house charges @ 1.5% interest on balance amount will be charges per month
INSPECTION	If you require physical/visual inspection of the equipment in knocked down condition, can be had at



	our works before dispatch by your authorized representatives. The final inspection and test can be carried out at consignee's Site after erection and commissioning.
LATE DELIVERY	No Late Delivery clause is applicable, unless agreed upon in written.
UNLOADING OF THE EQUIPMENT	Our offer does not include unloading of the dispatched consignment at Consignee's site/stores. The consignee has to arrange for unloading the incoming consignment, bringing the materials to proper erection site when erection starts. The materials received by the consignee should be properly stored under covered area to prevent from rain.
SUB-CONTRACTING	We reserve the right to buy parts, semi-finished parts from sub-contractors and also to sub-contract any portion of the work as may be found necessary for betterment of the equipment. However, we will be responsible for the complete supply of the equipment.
WARRANTY	We stand WARRANTY for the equipment against defective design/faulty workmanship for a period of 18 months from the date of dispatch of equipment or 12 months from the date of commissioning whichever is earlier. However this Warranty does not apply of parts which are subject to normal wear and tear and require periodical replacement such as rubber parts, refractory items electrical/electronic items and other perishable items and if the components are found damaged during transit to bad storage, misuse or mishandling of the equipment by you.
VALIDITY	30 Days
JURISDICTION	All dispute are subject to Surendranagar jurisdiction
CANCELLATIONS	In case of cancellation of LOI / Purchase order, following cancellation charges will apply. Within 1 month of LOI / Order: 20% Within 2 month of order: 50% After 2 months of order: 100%

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S

GST no. 06AQTPM9983F1ZZ



Maan Global Industries

14/4 Bali Nagar, Mathura Road, Faridabad 121003, Haryana

Ph: 0129-4902109 / +91-8882490101, Website: maanglobalindustries.com

Item Description	Qty.	Amount in Rs.
Gas Fired Bogie Oven For Aluminium Aging with single Trolleys, 3 Tons Capacity	01	30,45,000.00
Control Panel with complete switchgear & Gas Train	01	6,50,000.00
PLC Panel with Panel AC	01	5,50,000.00
Installation		Rs. 45,000
		Total: Rs. 42,90,000.00

Total Amount in Words after Discount: Forty-Four Lacs and Eighty-Three Thousand Rupees Only.

Terms & Conditions:

Taxes: 18% GST Extra

Transportation: Extra

Payment Terms: 40% advance with PO, 50% before dispatch and 10% after the installation.

Packing Charges: 1%

Delivery: 8 - 10 Weeks

Warranty: 1yr against manufacturing defect only.

DESCRIPTION GAS FIRED BOGIE HEARTH FURANCE

Batch Weight	3000kgs Max.
Oven Chamber Depth	4574MM

Oven Chamber Width	2000MM
Oven Chamber Height	2000MM
Bogie Movement	Sliding on Rails (Motorized Automatic)

Insulation:

- Rockwool lining insulation and Rockwool Slabs for thermal insulation 96kg/m³ Density, resistant upto 600 Degree C.
 - Total Insulation Thickness – 4 inches.
- Baffle to prevent Aluminium profiles coming in contact with direct heat.**

Bogie Trolley Movement:

- Motorized on Rails with 10HP motor and Gear Box for speed control.
- Bogie frame will be of Channels for Durability and Longer Service Life.
- Bogie will be constructed on Channels frame thermally insulated for heat loss prevention using ceramic fibre modules.

Heat Re-circulation:

Heat re-circulation Convection blowers wall mounted. 3HP x 4 Blowers

Hot air re-circulation centrifugal Blower 30HP, pulling air from the Furnace and redistributing into the oven chamber.

Air circulation Vertical Orientation.

Bogie/Trolley Length	14ft MM
Bogie/Trolley Height including Wheels	300 MM Approx.
Baffle Plates	Baffle on Side walls to prevent Aluminum profiles coming in direct contact with Heat.
Oven Temperature	110 - 250 Degree C Max.
Oven Heat Source	Gas Burners Honeywell
Oven Type	Bogie Hearth Aging Oven

GAS FIRED BOGIE HEARTH OVEN SPECIFICATIONS

- a) The Oven outer shell in MS Sheets reinforced using Angles and Channels for durability.
- b) Door Front Opening on hinge (Side wise opening).
- c) Temperature indicating and controlling equipment PID controller.
- d) Cabling between Oven and control panel.

e) Bogie Trolley on Rail System for Loading the Charge into the Oven.

Purpose for which the Bogie Oven is intended for: The oven is meant for a maximum weight of 3000kgs per batch. Inner effective chamber size of the oven 4572MM Depth, 2000MM Width and 2000MM height.

SPECIFICATIONS

- a) Oven Load capacity:3000 kg Max. Horizontal Position
- b) Oven temperature: Upto 250 deg C. Max.
- c) Oven working temperature continuous: 220 deg. C
- d) Process Cycle – 2 to 24 hours x 7 days continuous, depending on the type of material to be processed/Aged.
- e) Allowable variation of temp: +/- 5 deg C.

Heating System

- a) Type: Gas Burners LNG/PNG/CNG fired, 150KW total capacity
- b) Make – Honeywell

c) Heating Power Total Load: 150 KW

e) Scheme for type of power regulation : PID controller will have 4 – 20 mA output to regulate the power input to the heaters through contactors power pack.

f) Number of phases : Three

g) Heating Zones: Three, Separate Temperature

control **DOOR**

- a) Number of Doors: **Single front opening on hinge (side wise opening)**
- b) Sealing details: Ceramic Fibre Sealing – 96kg/m³ Density, 6 Inches thick

BOGIE TROLLEY

A Bogie having Steel Wheels fitted with bearings for easy sliding on the Rail System. Bogie will be loaded/unloaded with the Charge/Material through Overhead Crane System to be arranged by the customer. The base of the Bogie will have heavy duty structure for load bearing and the outer structure of the Bogie will be constructed with MS and base will be reinforced with beams and angles for longer life use.

Power

- a) Control circuit voltage : 440V,AC,50 Hz.
- b) Power : 3 Phase,440V,AC,50Hz.
- c) Power rating: 150KW

STEEL FABRICATION

SHELL

The shell will be Rectangular in shape fabricated out of rolled mild steel sheets and shall be suitably reinforced with rolled steel sections like angles and channels to make the structure robust. The construction of shell will be self supporting type so that the shell can be placed on the shop floor directly.

OVEN ROOF

Flat roof suitable for lining with Ceramic Fibre 128kg/m³ density and ceramic fibre blanket shall be provided. Roof construction shall be modular in 3 to 4 modules. Roof structure shall consist of large section rolled or fabricated steel beams spanning Furnace width and attached to the side wall structure.

DOOR

The Oven door will be fabricated out of 5 mm thick mild steel plate and shall be reinforced with angles and channels. The inner cover of the door which comes in contact with working temperature of 650 deg C will be reinforced with Ceramic Fibre 128kg/m³ density and fiber lining or a similar material for minimum heat loss from the chamber. Ceramic Fibre sealing arrangement should be provided in the door to prevent heat loss. The door will be upward/downward movement driven manually by a Pulley Shaft Arrangement.

HEATING SYSTEM – Gas Fired

Honeywell gas burners having a max. capacity of 128976.7 kCal to achieve 200-degree C. Controlled by PLC, connected PID controllers and Gas flow mechanism controlled by PLC, solenoid valves, gas flow meters and other pressure regulator systems for complete automation.

AUTOMATIC TEMPERATURE INDICATOR AND CONTROLLER

The Oven will be provided with thermocouple on side wall. Apart from temperature controller, an over temperature protection will be provided. The control equipment will be capable of maintaining the temperature accuracy within +/- 5 deg C of the set temperature. The temperature shall be measured and controlled by automatic digital indicating PID controller and safety controller will act in conjunction with the thermocouple sensor having range of 0 - 750 deg C and will be complete with protective heat resisting sheath.

CONTROL PANEL

The control panel should be a metal sheet cubical floor mounted type and the scope of supply should include 1 No. control panel with power supply and instrumentation panel. The control panel should be neatly wired and ferruled prior to dispatch. All electrical controls for regulation of heating of the oven instruments such as voltmeters, ammeters, signal lamps should be provided.

INSULATION

The oven chamber will be thermally insulated with Rockwool fibre sandwiched between the oven wall, having a density of 96kg/m³ and 4 inches in total thickness.

13 inches to prevent heat loss to the body is kept as minimum as possible (not more than 60 deg C above ambient)

PAINTING

The oven shall be painted from the outside after two coats of red oxide and primer and the control panel will be painted with a suitable matching color.

Safety Devices

The automatic temperature controller will have built in broken thermocouple safety device so that in case the sensor fails the burners shall be cut off.

PLC based control panel for Controlling the Furnace Functions & Management – Siemens/Schneider/

The electrical system is designed to work on 400/440 volts, three phase, 50 Hz AC supply. The electrical connections are so made that it affords the facility to locate electrical fault if any, easily. This shall be provided with

MCB, MPCB, PID control, Voltmeters, Ammeters, Air Break Magnetic Contactors, Main and Auxiliary Fuses, Starters for the motor, Overload Relays, ON/OFF Switches etc, will be mounted in a separate control panel. All electrical wiring will be completed in the panel prior to its dispatch and for wiring conductors of sufficient capacity will be employed. Indicating Lamps for visual indication will be neatly positioned in the panel. The control panel will be separate unit self standing floor mounting type with a hinged back access door. The control panel will be finished with powder coated paint.

SAFETY FEATURES (Fully PLC based System controls and Management)

7. Control System & Electrical Switch Gear

PLC/ based furnace management, control and operations.

:

- a) ST30 18/12 CPU – SIEMENS

- c) AI CARD 8CH – SIEMENS
- b) d)S HMI KTP 400 – SIEMENS
- c) e) VFD 5 HP 3P – SIEMENS
- f) MCB -16A TP – SCHNEIDER
- g) START/STOP SWITCH – SCHNEIDER
- h) ON/TRIP – SCHNEIDER
- i)1 CONTACTOR 9A – SCHNEIDER
- j)8 OLR -3-5 A – SCHNEIDER
- k)/ MCB - 16A TP – SCHNEIDER
- l)1 PUSH BUTTONS – SCHNEIDER
- m)2 SMPS 4.5A – MEANWELL
- n) RELAY CARD 8 CH – OMRON
- o) POWER SOCKET – ANCHOR
- p) MCCB 100A TP – SCHNEIDER
- q) RYB IND. – SCHNEIDER
- r) MCB 6A SP – SCHNEIDER
- s) PANEL BOX - MGI

The control panel will be housed with the following: -

- a)6 No. Micro Processor based PID Digital temperature Indicating controller + 12 Free Thermocouples for Calibration & Temp. recording at various points.
- b)4 No. safety controller
- c)4 No. Voltmeter
- d)Air Break Magnetic Contactors
- e) Over Load Relays
- f) On/ Off Rotary Switches
- g) Indicating Lamps as required

- h)1 No. Main switch

Safety Features

- Explosion Vent as per the NFPA US to ensure pressure build-up release
- Mechanical Dampers on the roof that prevents any pressure buildup during the operations.
- Pressure release valves for automatic pressure release.
- Auto-cut system in case of gas detection inside the oven chamber.
- Gas leakage detection and system shutdown device in the Gas Train.
- Overheat auto shut down mechanism to prevent aluminum profiles from getting exposed to extreme heat.

Make of the Components

**Havells – Siemens – Schneider – Eurotherm – Honeywell – Murugappa – L&T
– Rishab - Mitsubishi**

Note: 1. All above dimensions are approximate and for User's Guidance only. The system's design may change at the time of detailed designing without affecting its rated capacity and performance of the system.

2. This Data furnished in this Offer is submitted upon your request for quotation. This shall not be passed outside of your organization and shall not be duplicated; used or disclosed whole or part for any purpose other than to evaluate the proposal. This applies to all pages and drawings of this proposal.

UTILITIES THAT SHALL BE ARRANGED AT YOUR SITE

Power : 3 Phases, 440 V, 50 Hz, AC.

Cabling : From the Main Electricity Supply to the
Equipment From Control Panel to the
Equipment, etc.,

Electric Hoist : Shall be arranged at your end. All utilities, Interconnection
Power, Cables and Wires

OUR VENDOR LIST



murugappa







Heat Treatment Furnace Manufacturer

Call: +91-8882490101



Schlumberger
(USA)

JF Machinery
(Australia)

Buddha Air
(Nepal)

Gulf Craft
(UAE) (Maldives)

AMEERI INDUSTRIES
(Kingdom of Bahrain)



SWAROVSKI
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gevasol
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(Kenya)

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Auto Springs East Africa Pte
(Kenya)

ESCORTS

HAL
Hindustan Aeronautics Limited



L&T Construction

VGN
CREATING ASSETS SINCE 1982

S P Singla Construction Pvt. Ltd.
Building infrastructure for future



भारतीय प्रौद्योगिकी संस्थान जम्मू
INDIAN INSTITUTE OF TECHNOLOGY JAMMU

HINDUSTAN PLATINUM PVT. LTD.
विशुद्धता परिलक्षित प्रोफेसर्स लिमिटेड



PINN CLE
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萬豐奧特控股集團
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ALOK

talbro's VISION
experts

JMC PROJECTS (INDIA) LIMITED
(A Kalpataru Group Enterprise)

ifor
Industrial Forging Engineering.co.ltd

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Vicat, France

Bharathi CEMENT

POLAAD
QST & CRS Bars
Securing Shapes Forever





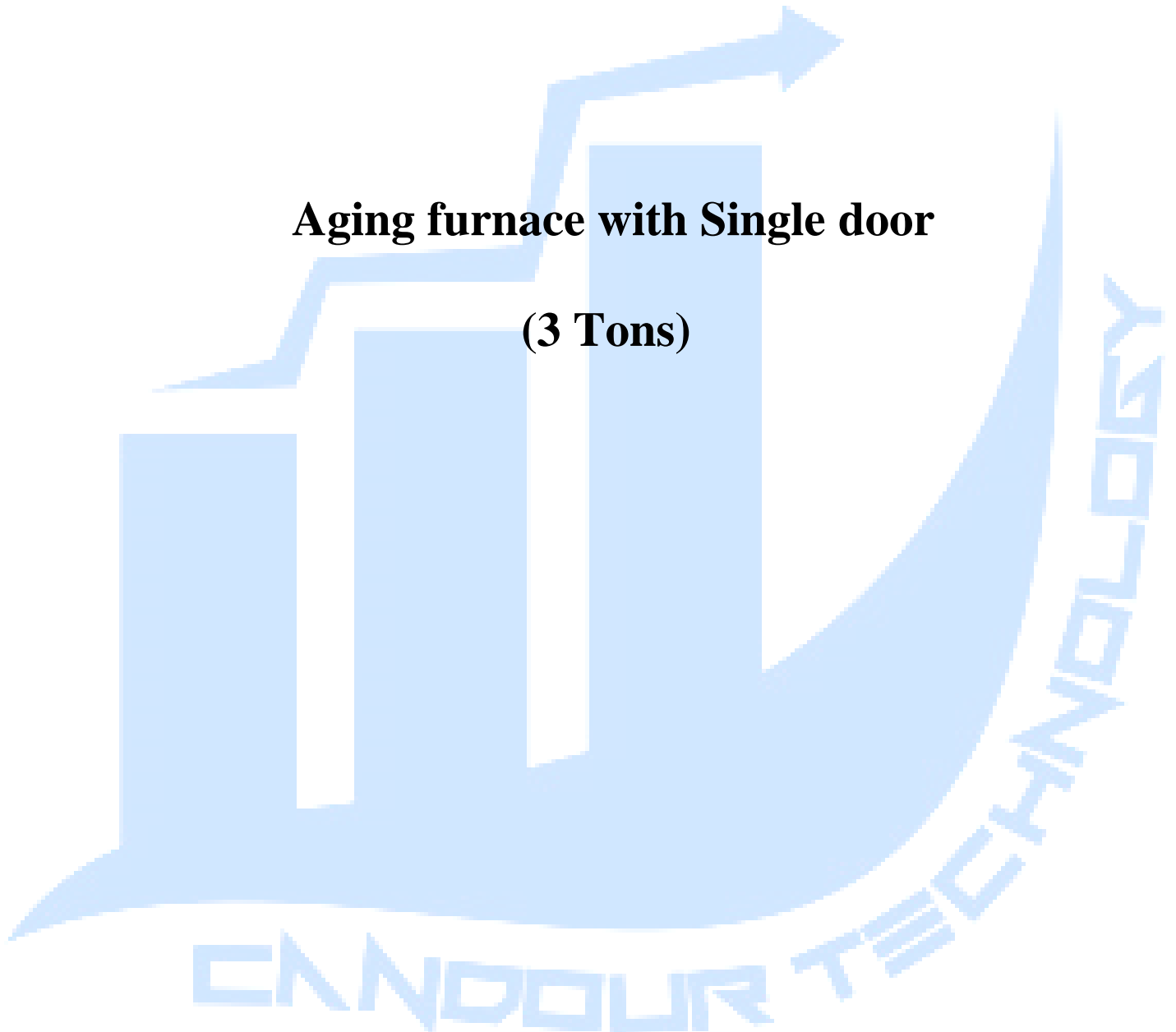
CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Aging furnace with Single door

(3 Tons)





CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Aging furnace with Single door

Our aging furnace is designed for various types of profile in purpose of Aluminum aging processing. As for global marketing over the years, there are growing business expansion in countries and regions like Greece, Jordan etc. From 2T to 50T processing ability, our aging furnace product range ensures high quality as well as stable functions according to customer's feedback. Also, our aging furnace has ability and capability to meet any requirements for constructional profile and industrial profile processing.

Our company has experienced, sophisticated production technology and strict manufacturing process. Our aging furnace is manufactured in our plant and then re-installed in customer's site as desired. Our aging furnace includes electricity heating, gas heating and diesel oil heating.



CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Features:

Blower: consists of double suction blower, in high pressure and large volume, able to meet heat up time standard and warm keeping demand. Unto 15000 CFM @ 16 m/s velocity.

Thermal insulation: combined with high quality thermal blanket in 200mm thickness. Largely reduce power supply consumption, energy saving and creates more profits.

Seal up: space between oven door and oven is sealed up with mild steel network and thermal blanket. Also, conjunction parts such as blower and heating valve are in sealed design to ensure excellent performance in production.

Temperature detection: two sections of temperature detection.

Bearing: material carts are equipped with high temperature bearing.

Temperature control: furnace is equipped with over-heated and over-due protective alarm indicating via sound & light alarming.



CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, [website-www.candourtechnology.in](http://www.candourtechnology.in)

Parameter

Item	Description
Control voltage	220VAC/24VDC
voltage	415V AC
Air deflector	Positioned at rear side
Furnace	Mild Steel
Single door	The chain/rope drive of the turbine reducer is lifted and lowered
Double suction blower	1 unit (power:11kw);blower adopts 4 mm、6 mm mild steel plate
Oven size	1300 x 2000 x 5500 mm
capacity	02 basket
External and internal plate of oven	2mm, 3mm Mild Steel plate
Other spares	Mild steel plates
Pulling system	2 units of material trolley; cycloidal-pin gear speed reducer with chain for delivering in and out of oven
Temperature control	Full auto heating
Burner	Natural gas burner, Bentone, Sweden, BG400 (1Set)
Natural gas calorific value	4200Kcal/m ³
Gas consumption	8-10 m ³ /T
Thermal insulation	Thickness 150 mm aluminum silicate cotton



CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

furnace size	1600 x 2800 x 5700 mm
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CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website-www.candourtechnology.in

Maximum furnace loading in theory		3000 Kg (APPROX)
L×W×H Material container size		2 SET 4000×1300× 1000 (mm)
Furnace internal temperature range		±5 °C
power	Blower	11 KW
	Oven door electrical motor	2.2 KW×1
	Pulling electrical motor	4KW×1
Operation method		Manual/auto

Equipment components

Main electrical appliance by Schneider

System	Item	Description	Manufacturer	Note
Electrical control system	AC contactor	LC1E	Schneider	France
	Thermal relay	LR	Schneider	France
	Time delay module	LADS2	Schneider	France
	Auxiliary module	LADN11C	Schneider	France
	Molded Case Circuit Breakers	NSC250S	Schneider	France

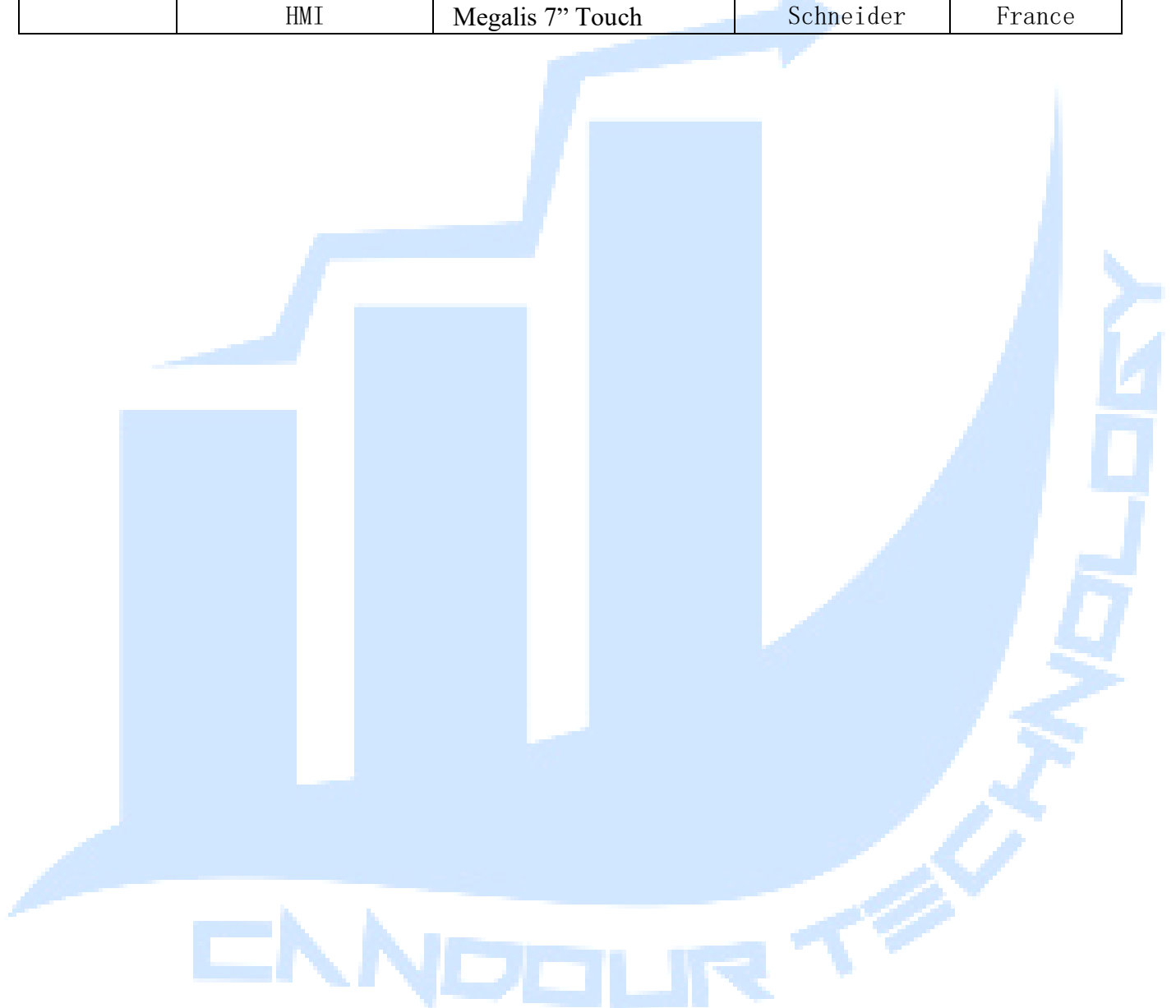


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JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Circuit breaker	OSMC32N	Schneider	France
Emergency stop	ZB2 BS54C	Schneider	France
The second switch	ZB2 BD2C	Schneider	France
PLC	T200 40R	Schneider	France
HMI	Megalis 7" Touch	Schneider	France





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JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Contactor		Schneider	France
Contactor	ZB2 BZ102C	Schneider	France
Flat button with light	ZB2BWM41C Red	Schneider	France
Flat button with light	ZB2BWM31C green	Schneider	France
Temperature controller	By PLC	Schneider	France
Burner	Exclusive natural gas burner	Bentone	Sweden
Blower	Multi-blade double suction	Candour	India
Belt cover	2mm steel plate	Candour	India
Blower top cover	[10 channel steel plate, 2mm steel plate	Candour	India
Explosion proof	2mm steel plate	Candour	India
Air system	3mm	Candour	India

Features

The Ageing oven herein is equipped with new design of large power double suction blower which ensures efficient air volume compared with old design of blower and makes sure internal oven temperature much more well-distributed; another outstanding advantage of such die oven is less noises so as to meet environmental requirement; schemed with double door design improves production efficiency; what's



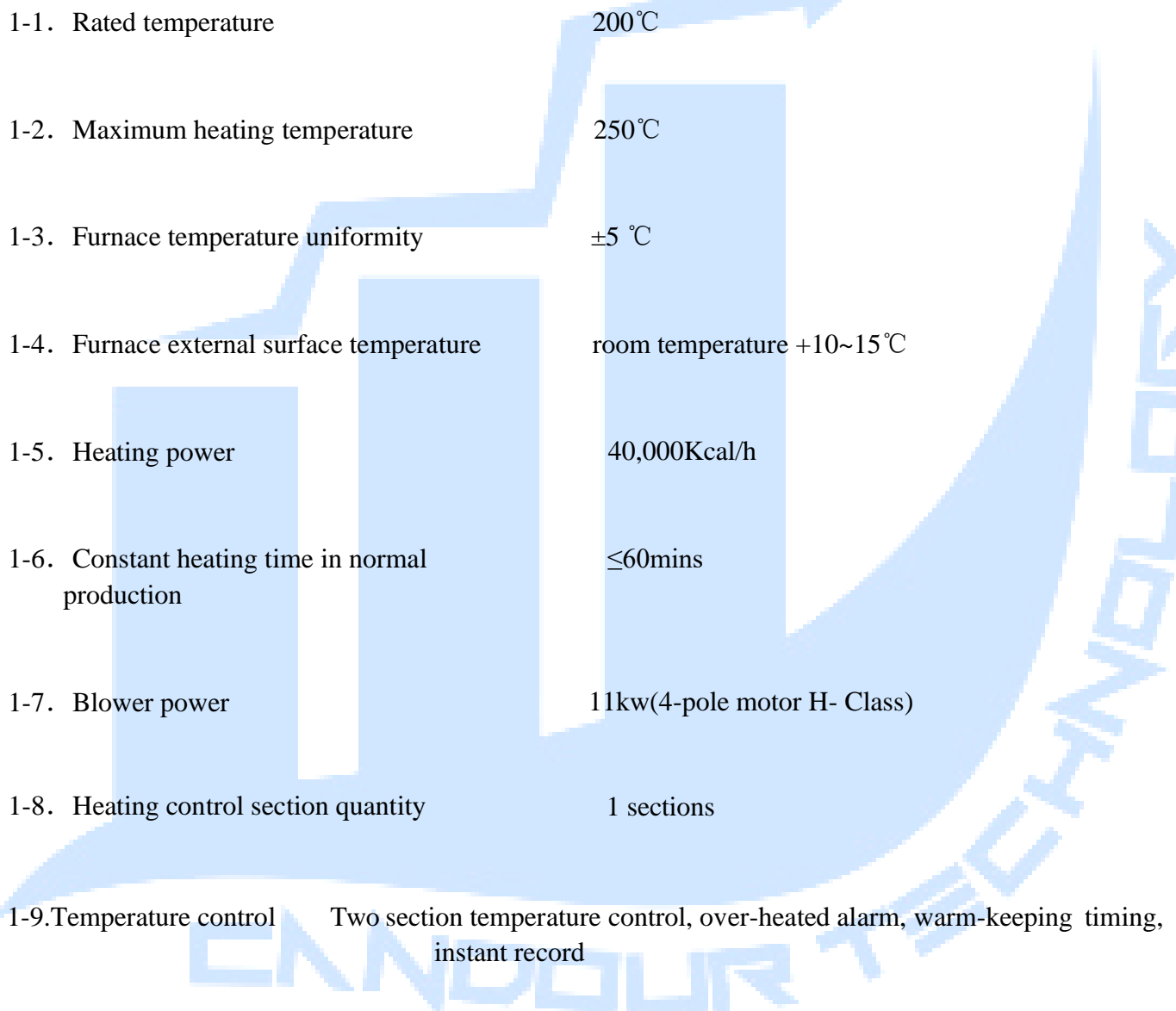
CANDOUR TECHNOLOGY

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Email- info@candourtechnology.in, [website-www.candourtechnology.in](http://www.candourtechnology.in)

more, remaining heat can be collected in production with short heat up time and excellent warm keeping ability which is energy saving with power consumption lower at least 30% than general aging furnace.

Technical parameter



1-1. Rated temperature	200°C
1-2. Maximum heating temperature	250°C
1-3. Furnace temperature uniformity	±5 °C
1-4. Furnace external surface temperature	room temperature +10~15°C
1-5. Heating power	40,000Kcal/h
1-6. Constant heating time in normal production	≤60mins
1-7. Blower power	11kw(4-pole motor H- Class)
1-8. Heating control section quantity	1 sections
1-9. Temperature control	Two section temperature control, over-heated alarm, warm-keeping timing, instant record
1-10. Materials cart quantity	one set (1 unit)
1-11. Materials cart motion	Mechanical motion(power: 5.5kw×1)



CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN MANDIR, BAHADURGARH, DIST-
JHAJHAR, HARYANA, 124507, INDIA

Email- info@candourtechnology.in, website- www.candourtechnology.in

Terms and Conditions

- Taxes as applicable (18% GST)
- 50% advance at the time of placing order 45% before delivery 5% after installation.
- Per Day Salary, food , accomodation , train or air tickets for two engineers to be paid by customer as installation charges.
- Freight to be paid by customer.

CANDOUR

TECHNOLOGY



MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

RefNo : MFPL/ND/SKS/23-24/056

Date : 20th July,2023

M/s Jindal Aluminium Ltd,
Jindal Nagar, 16th KM, Tumkur Road,
BANGALORE – 560 073

Kind Attn : **MR.MOHAN. N**
Subject : **YOUR REQUIREMENT OF FURNACES.**

Dear Sir,

Reference visit at your Bhiwadi Plant and discussions had with Mr. Shankranand Mishra regarding above subjected requirement. As required we are quote our revise price as per specification provided for the following.

- 1. MFPL FUEL GAS FIRED TUNNEL TYPE SINGLE ROW LOG HEATER. CAPACITY 1200 KG/HR.
PRICE : RS. 34,00,000=00 (RUPEES THIRTY FOUR LAC ONLY)**
- 2. MFPL GAS FIRED TUNNEL TYPE SINGLE ROW LOG HEATER. CAPACITY 2500 KG/HR.
PRICE : RS. 41,00,000=00 (RUPEES FORTY ONE LAC ONLY)**
- 3. MFPL GAS FIRED AGING OVEN. EFFECTIVE SIZE 5000 L X 2000 WX 2000 H
PRICE : RS. 20,00,000=00 (RUPEES TWENTY LAC ONLY)**

We believe the enclosed offer will be in line with your requirement. However, if you need any additional information or clarifications in process of finalizing your above requirement. Please write to us or call us.

Mean while, thanking you and awaiting your early favorable response.

(Terms of Supply attached)

Yours Faithfully,
For Macro Furnaces (P) LTD,

(S.K.SHARMA)

E-mail: macrofurnace@gmail.com

Contact: +91-9810976250, 95400-14821

sksharma@macrofurnaces.com

GSTIN:06AAACM5608H1ZO



MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

OFFER NO : MFPL/ND/SKS/23-24/056

DATE : 20TH JULY 2023

1. TECHNICAL SPECIFICATION GAS FIRED LOG HEATER WITH PUSHING ARRANGEMENT

TECHNICAL SPECIFICATION

TYPE : TUNNELTYPE
CAPACITY : 1200 KG/HR
NO. OF ROW : SINGLE

EFFECTIVE DIMENSIONS

LENGTH : 9000 MM
WIDTH : 375 MM
HEIGHT : 375 MM
OPERATING TEMP. : 520°C
DESIGN TEMP. : 700°C

CHARGE SPECIFICATION

LENGTH OF LOG : 6000 MM – 6300 MM
DIA : 127 MM
NO. OF BURNERS : 64
TYPE OF BURNERS : PRE-MIX TYPE
NO OF PILOT BURNER : 3
FIRING RANGE : .5 KG TO .75 KG PER BURNER
IGNITION SYSTEM : AUTO-MATIC
BLOWER : CENTRIFUGAL COMBUSTION AIR BLOWER
CAPACITY 1200 CFM
NO OF ZONES : THREE
CONTROL : THROUGH DIGITAL INDICATOR /
CONTROLLER
FUEL : NG
NO.OF DOORS : TWO
MOVEMENT OF BILLET
INSIDE THE FURNACE : ON CAST STEEL ROLLER TYPE RAIL(GRADE 304)
NO. OF ROW : ONE
GAS CONSUMPTION (N.G.): 2 LAC K.CAL /KG / TON OUT PUT
HEATING TIME : 1 HR – 1.5 HR FROM COLD CONDITION

GAS TRAIN

FLOW RATE : 100 SCM/HR
INLET PRESSURE : 4M.BAR
OUTLET PRESSURE : 20 M.BAR MAX.

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MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

PRESSURE GAUGE : 3 NOS
PRESSURE REGULATOR : 3 NOS
SOLENOIDE VALVE : 3 NOS
AIR / GAS MIXING VENTURY : 3 NOS

REFRACTORY BOTTOM

IS-8 ST. : 190 MM
INSULATION BRICKS : 115 MM

CERAMIC FIBER MODULS

THICKNESS : 175 MM
NO. OF ZONES : THREE
NO. OF THERMOCOUPLE : THREE

CHIMNEY

DIA : 300 MM
HEIGHT : 2 METER
MATERIAL : M.S
THICKNESS : 5 MM
POWER VOLTAGE : 440 VOLT \pm 5%
50 C/S A.C.SUPPLY

SCOPE OF SUPPLY

THE SCOPE WILL COVER DESIGN, ENGINEERING, MANUFACTURING, SUPPLY, ERECTION & COMMISSIONING OF ABOVE FURNACE CONSISTING OF THE FOLLOWING.

FURNACE OUTER SHELL

THE MAIN OUTER RECTANGULAR SHELL WOULD HAVE STURDY CONSTRUCTION AND FABRICATED OUT OF 5-6 MM THICK TESTED ROLLED MILD STEEL PLATES DULY REINFORCED WITH ADEQUATE ANGLES AND CHANNELS (100 X 50) FOR RIGIDITY SUITABLE TO WITHSTAND THE OPERATIONAL STRESSES AND THERMAL EXPANSION OCCURRED AT HIGH TEMPERATURE.

FURNACE REFRACTORY

ONLY STANDARD REFRACTORY BRICKS AND CERAMIC FIBER OF SUITABLE QUALITY FROM REPUTED MANUFACTUERS WILL BE SUPPLIED ALONG WITH FURNACE.

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Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

BURNERS

64 NOS. PENCIL TYPE PRE-MIXING GAS BURNERS ALONG WITH OTHER FITTINGS WILL BE SUPPLIED WITH THE FURNACE.

GAS / AIR MIXING VENTURY

THREE NOS AIR / GAS MIXING VENTURY OF SUITABLE CAPACITY WILL BE IN OUR SCOPE OF SUPPLY.

BLOWER

ONE NO. STEEL FABRICATED CENTRIFUGAL COMBUSTION AIR BLOWER MAKE MACRO, CAPACITY 1400 CFM AT 600 MM W.G. PRESSURE ALONG WITH 10 HP/2800 RPM MOTOR OF REPUTED MAKE i.e. ABB / CROMPTON ETC.

I.D. FAN

I.D. FAN OF CONTROLS CAPACITY FOR RE CIRCULATION THE FLUE GASES IN PRE-HEATING CHAMBER WILL BE PROVIDED BY US WITH DRIVE AND PRESSURE SWITCH.

PUSHING ARRANGEMENT (IN SIDE THE FURNACE)

S.S. 310 DUAL SYSTEM TYPE.

- i) SELF.
- ii) WITH GEAR MOTOR OF SUITABLE COMPLETE WITH CLUTCH SYSTEM.

PRE-HEATING CHAMBER

THE FURNACE WILL BE HAVE THREE METER PRE-HEATING CHAMBER FOR RE USING THE HEAT GOING WASTE TO ATMOSPHERE WITH HELP OF VARIABLE SPEED INDUCED DRAFT FAN, PRESSURE SWITCH AND S.S. 310 DISTRIBUTOR INSIDE THE CHAMBER.

CHIMNEY

AS PER DETAIL GIVEN IN ENCLOSE SPECIFICATIONS.

CONTROL PANEL

ONE NO. NEATLY FABRICATED CONTROL PANEL COMPRISING OF FOLLOWING WILL BE SUPPLIED ALONG WITH FURNACE.

E-mail: macrofurnace@gmail.com

Contact: +91-9810976250, 95400-14821

sksharma@macrofurnaces.com

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MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

- MAIN SWITCH.
- CONTROL FOR SOLENOID VALVES (FOUR ZONES SEPARATELY)
- CONTROL FOR PUSHER AND PULLER.
- CONTROL FOR BLOWER.
- CONTROL FOR GAS TRAIN.
- THREE NOS MICRO PROCESSED DIGITAL INDICATOR / CONTROLLER (DUPLEX)
- THREE NOS THERMOCOUPLE WITH COMPENSATING LEAD (SPRING TYPE).
- INTER LOCKING OF LAST (OUT LET) THERMOCOUPLE WITH TEMPERATURE & DOOR (OUT LET)
- HMI / PLC / SCADA

GAS TRAIN (SECONDARY)

GAS TRAIN MAKE HONEYWEL COMPRISING OF PRESSURE GAUGE, FILTER PRESSURE REGULATOR, PRESSURE RELIEF VALVE. RANGE 4 KG – 20 M.BAR WILL ALSO BE IN OUR SCOPE OF SUPPLY.

LOG PUSHING ARRANGEMENT (OUT SIDE THE FURNACE)

ONE NO. LOG PLATE FROM SHIFTING ARRANGEMENT AND PUSHING ARRANGEMENT OF LOG INTO THE FURNACE WILL BE IN OUR SCOPE OF SUPPLY.

MOTORS	:	ABB / CROMPTON
I.D. FAN / BLOWER:	:	MACRO
BURNER	:	MACRO
GAS TRAINS	:	HONEYWEL 02 OTHER STANDARD MANUFACTURER
CONTROLLER	:	HONEYWEL OR OTHER STANDARD MANUFACTURER
SWITCH GEAR	:	ANY STANDARD COMPANY OF YOUR CHOICE.

EXCLUSION

- BOARDING LODGING FOR OUR WORKERS & SUPERVISOR.
- CIVIL FOUNDATION.
- HYDRAULIC OIL.
- GAS LINE NEAR THE FURNACE WITH REQUIRED FLOW RATE.
- ELECTRICAL CABLES FROM MAIN SWITCH TO UTILITES.
- COMPRESSED AIR LINE NEAR THE FURNACE.

FOR MACRO FURNACES (P) LTD.

S.K. SHARMA

E-mail: macrofurnace@gmail.com

Contact: +91-9810976250, 95400-14821

sksharma@macrofurnaces.com

GSTIN:06AAACM5608H1ZO



MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

2. TECHNICAL SPECIFICATION FOR GAS FIRED LOG HEATER WITH PUSHING ARRANGEMENT.

TYPE : TUNNELTYPE
CAPACITY : 2500 KG/HR
NO. OF ROW : SINGLE

EFFECTIVE DIMENSIONS

LENGTH : 12000 MM
WIDTH : 400 MM
HEIGHT : 400 MM
OPERATING TEMP. : 520°C
DESIGN TEMP. : 700°C

CHARGE SPECIFICATION

LENGTH OF LOG : 6000 - 6300 MM
DIA : 178 MM
NO. OF BURNERS : 90
TYPE OF BURNERS : PRE-MIX (PENCIL TYPE)
NO OF PILOT BURNER : 3
FIRING RANGE : .750 KG TO 1 KG PER BURNER.
IGNITION SYSTEM : AUTO-MATIC
BLOWER : CENTIRFUGAL COMBUSTION AIR BLOWER
CAPACITY 2800 CFM
NO OF ZONES : THREE OF 3 METER EACH
CONTROL : THROUGH DIGITAL INDICATOR /
CONTROLLER
FUEL : LPG / NG
NO.OF DOORS : TWO
MOVEMENT OF LOG
INSIDE THE FURNACE : ON S.S. 304 RAIL AND ROLLERS
NO. OF ROW : ONE
GAS CONSUMPTION (N.G.): 210000K.CAL/KG/TON OUTPUT
HEATING TIME : 1 – 1.5 HOURS (MAX.) FROM COLD CONDITION

GAS TRAIN (PRIMARY) : 1 SET

FLOW RATE : 150 SCM/HR
INLET PRESSURE : 4 BAR
OUTLET PRESSURE : 10 – 20 M BAR
PRESSURE GAUGE : 6 NOS

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MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

PRESSURE REGULATOR : 3 NOS
SOLENOIDE VALVE : 3 NOS
PRE-MIX VENTURY : 3 SET

GAS TRAIN (SECONDARY): 3 SET

AIR / GAS RATIO

REGULATOR : 3 NOS
PRESSURE GAUGE : 3 NOS.
SOLENOIDE VALVE : 3 NOS.
PRESSURE REGULATOR : 3 NOS.
INLET PRESSURE : 1 BAR
OUTLET PRESSURE : 20 M.BAR

THERMOCOUPLE SYSTEM: 3 SET

THERMOCOUPLE

(SPRING TYPE) DOUBLE : 3 SET.
1"DA X 450 MM(DOUBLE): 3 SET.
(ASSEMBLED ON A FRAME)

IGITION SYSTEM : 3 SET

IGITION PLUG : 3 NOS.
IGITION TRANSFORMER : 3 NOS.
PHOTO SENSOR : 3 NOS

BOTTOM

IS-8 ST. : 190 MM
INSULATION BRICKS : 115 MM

CERAMIC FIBER MODULS

THICKNESS : 175 MM
NO. OF ZONES : THREE
NO. OF THERMOCOUPLE : THREE

CHIMNEY

DIA : 400 MM
HEIGHT : 2 METER
MATERIAL : M.S
THICKNESS : 5 MM

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MACRO FURNACES PRIVATE LIMITED

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POWER VOLTAGE : 440 VOLT \pm 5%
50 C/S A.C.SUPPLY

SCOPE OF SUPPLY

THE SCOPE WILL COVER DESIGN, ENGINEERING, MANUFACTURING, SUPPLY, ERECTION & COMMISSIONING OF ABOVE FURNACE CONSISTING OF THE FOLLOWING.

FURNACE OUTER SHELL

THE MAIN OUTER RECTANGULAR SHELL WOULD HAVE STURDY CONSTRUCTION AND FABRICATED OUT OF 5-6 MM THICK TESTED ROLLED MILD STEEL PLATES DULY REINFORCED WITH ADEQUATE ANGLES AND CHANNELS (100 X 50) FOR RIGIDITY SUITABLE TO WITHSTAND THE OPERATIONAL STRESSES AND THERMAL EXPANSION OCCURRED AT HIGH TEMPERATURE.

FURNACE REFRACTORY

ONLY STANDARD REFRACTORY BRICKS AND CERAMIC FIBER OF SUITABLE QUALITY FROM REPUTED MANUFACTURERS WILL BE SUPPLIED ALONG WITH FURNACE.

BURNERS

90 NOS. PENCIL PRE-MIXING TYPE GAS BURNERS ALONG WITH OTHER FITTINGS WILL BE SUPPLIED WITH THE FURNACE.

PRE-MIXING VENTURY

3 NOS PRE-MIXING VENTURY OF SUITABLE CAPACITY WILL BE IN OUR SCOPE OF SUPPLY.

BLOWER

ONE NO. STEEL FABRICATED CENTRIFUGAL COMBUSTION AIR BLOWER MAKE MACRO, CAPACITY 2800 CFM AT 600 MM W.G. PRESSURE ALONG WITH 20 HP/2800 RPM MOTOR OF REPUTED MAKE i.e. ABB / CROMPTON ETC.

PUSHING ARRANGEMENT (INSIDE THE FURNACE)

- a) S.S. 310 (DOUBLE SYSTEM TYPE)
- i) SELF.
- j) WITH GEAR MOTOR OF SUITABLE CAPACITY WITH CLUTCH SYSTEM.

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Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

PRE-HEATING CHAMBER

THE FURNACE WILL BE HAVE THREE METER PRE-HEATING CHAMBER FOR RE USING THE HEAT GOING WASTE TO ATMOSHPERE WITH HELP OF VARIABLE SPEED INDUCED DRAFT FAN, PRESSURE SWITCH AND S.S. 310 DISTRIBUTOR INSIDE THE CHAMBER..

CHIMNEY

AS PER DETAIL GIVEN IN ENCLOSE SPECIFICATIONS.

CONTROL PANEL

ONE NO. NEATLY FABRICATED CONTROL PANEL COMPRISING OF FOLLOWING WILL BE SUPPLIED ALONG WITH FURNACE.

- MAIN SWITCH.
- CONTROL FOR SOLENOID VALVES (THREE ZONES SEPARATELY)
- CONTROL FOR PULLER.
- CONTROL FOR BLOWER / I.D. FAN.
- CONTROL FOR GAS TRAINS.
- THREE NOS MICRO PROCESSED DIGITAL INDICATOR / CONTROLLER.
- THREE NOS DIGITAL INDICATORS IN PARALLED.
- HIM CONTROL / PLC/ SCADA.
- OUT LET SIDE THERMOCPULE SETTING WITH TEMPERATURE AND DISCHARGING DOOR.
- NECESSARY INTER LOCKING REQUIRED.

GAS TRAIN (PRIMARY)

COMPLETE GAS TRAIN AS PER DETAIL GIVEN IN ENCLOSE TEHNICAL SPECIFICATIONS.

GAS TRAIN (SECONDARY)

GAS TRAIN MAKE HONEYWEL COMPRISING OF PRESSURE GAUGE, FILTER PRESSURE REGULATOR, PRESSURE RELIEF VALVE. RANGE 4 KG – 20 M.BAR AND COMPLETE IGITION SYSTEM DETAIL GIVEN IN ENCLOSED TECHNICAL SPECIFICATIONS WILL ALSO BE IN OUR SCOPE OF SUPPLY.

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MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

LOG PUSHING ARRANGEMENT (OUT SIDE THE FURNACE)

A HYDRAULICALLY OPERATED LOG PUSHING SYSTEM AND M.S. FABRICATED TABLE TO KEEP 5 – 6 LOGS IN AWAIT FOR PUSHING WILL BE IN OUR SCOPE OF SUPPLY.

MOTORS	:	ABB / CROMPTON
I.D. FAN / BLOWER:	:	MACRO
BURNER	:	MACRO
GAS TRAINS	:	HONEYWEL 02 OTHER STANDARD MANUFACTURER
CONTROLLER	:	HONEYWEL OR OTHER STANDARD MANUFACTURER
SWITCH GEAR	:	ANY STANDARD COMPANY OF YOUR CHOICE.

EXCLUSION

- **BOARDING AND LODGING FOR OUR WORKERS AND SUPERVISOR.**
- **CIVIL FOUNDATION WITH FOUNDATION BOLTS.**
- **HYDRAULIC OIL.**
- **GAS LINE NEAR THE FURNACE WITH REQUIRED FLOW RATE.**
- **ELECTRICAL CABLE FROM MAIN SWITCH TO UTILITIES.**
- **COMPRESSED AIR LINE NEAR THE FURNACE.**

FOR MACRO FURNACES (P) LTD.

S.K. SHARMA

[E-mail: macrofurnace@gmail.com](mailto:macrofurnace@gmail.com)

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sksharma@macrofurnaces.com

[GSTIN:06AAACM5608H1ZO](https://www.gstin.gov.in/gstin/06AAACM5608H1ZO)



MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

3. TECHNICAL SPECIFICATION FOR GAS FIRED AGING OVEN

TYPE	: GAS FIRED BATCH TYPE (LONGITUDNAL FLOW)
PROCESS	: AGING
NO. OF TROLLY	: 1 NO
EFFECTIVE LENGTH	: 5000 MM
EFFECTIVE HEIGHT	: 2000 MM
EFFECTIVE WIDTH	: 2000 MM
BATCH CAPACITY	: 3 M. T
FUEL	: PROPANE / LPG / NG/
WORKING TEMP.	: 250°C
DESIGN TEMP.	: 300°C
CONTROL	: AUTOMATIC (PID AND PLC)
GAS CONSUMPTION	: 1 LAC K.CAL TO 1.10 K.CAL /KG
STRUCTURE & DOORS	: M.S.FABRICATED (OUT SIDE SHEET 3.15 MM (M.S.) (INNER SIDE SHEET 2.5 MM (LOW CARBON)
NO OF ZONES	: ONE
NO OF RECIRCULATION	
FANS	: ONE 15 HP/1440 RPM
HEATING THROUGH	: S.S.FABRICATED AIR PRE-HEATERS
NO OF BURNER	: ONE
HEATING TIME	: 1.5 HRS
SIZE	: 1 LAC K.CAL
MAKE	: REILO/ BENTONE
SUPPLY	: 415 VOLTS 3 PHASE 50 C/S A.C.SUPPLY.(CONTROL VOLTAGE 220 VOLTS)

SCOPE OF SUPPLY

THE SCOPE WILL COVER DESIGN, ENGINEERING, MANUFACTURING, SUPPLY, ERECTION & COMMISSIONING OF THE FOLLOWING COMPONENTS.

FURNACE SHELL

THE MAIN OUTER RECTANGULAR SHELL WOULD BE OF STRUDY CONSTRUCTION THE SHELL WOULD BE OF DOUBLE WALLS. THE OUTER WALL WILL BE FABRICATED OUT OF 3.15 MM THICK M.S. SHEETAND THE INNER WALL WILL BE FABRICATED OUT OF 2.5 MM THICK LOW CARBON STEE SHEET DULY REINFORCED WITH ADEQUATE SIZE OF ANGLE FOR RIGIDITY TO WITHSTAND THE OPERATIONAL STRESSES AND THERMAL EXPANSION AT HIGH TEMPERATURE.

E-mail: macrofurnace@gmail.com

Contact: +91-9810976250, 95400-14821

sksharma@macrofurnaces.com

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MACRO FURNACES PRIVATE LIMITED

Vill. Dungarpur, Kanwra, Distt. Faridabad (HR) - 121002

INSULATION

200 MM THICK MINERAL WOOL WILL BE TIGHTLY FILLED IN BETWEEN OUTER AND INNER WALLS OF THE SHELL FOR HIGH STORING CAPACITY AND MINIMUM LOSSES.

DOOR

1 NO. DOOR FABRICATED OUT OF 3.15 MM THICK M.S. SHEET HAVING DOUBLE WALLS DULLY FILLED IN WITH 200 MM THICK MINERAL WOOL WILL BE SUPPLIED WITH FURNACE. THE CONSTRUCTION MOUNTING OF THE DOOR WOULD BE SUCH THAT TO ENSURE PERFECT SEALING TO THE WORKING CHAMBER. THE DOOR WILL BE OF UP & DOWN SYSTEM WITH HELP OF MOTORISED SYSTEM.

AIR PREHEATER

1 NO AIR PRE-HEATER SIZE 8" DIA FABRICATED OUT OF S.S. 310 TUBES WILL BE SUPPLIED BY US.

BURNER

1 NO. BURNER CAPACITY 1 LAC K.CAL MAKE RELIO / BENTONE WILL BE SUPPLIED BY US ALONG WITH PRE-HEATER.

BAFFLE PARTITION

PARTING THE FIRING ZONE & WORKING ZONE LOW CARBON STEEL SHEET THICKNESS 3.15 MM WILL BE PROVIDED.

GAS TRAIN (SECONDARY)

GAS TRAIN COMPRISING OF FOLLOWING WILL BE SUPPLIED BY US.

FLOW RATE - 60 SCM/HR
PRESSURE REGULATOR - 1 NO (1 KG-100 MM W.G. PRESSURE)
PRESSURE GAUGE - 1 NO
SOLENOIDE VALVE - 1 NO

AIR RE- CIRCULATION

FAN RE-CIRCULATING THE ATOMSPHERE IN SIDE THE OVEN, ONE NO. RE-CIRCULATING FAN WILL BE PROVIDED AT ONE END ON THE TOP OF OVEN.

E-mail: macrofurnace@gmail.com

Contact: +91-9810976250, 95400-14821

sksharma@macrofurnaces.com

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THE IMPELLER AND THE SHAFT OF THE FAN WILL BE MADE OF S.S 304 .ROUND & LOW CARBON SHEET 3.15 RESPECTIVELY THE FAN SHAFT WILL BE CONNECTED TO THE VARIABLE SPEEDMOTOR THROUGH SUITABLE PULLIES AND BEARINGS.

TROLLEY

ONE NO TROLLEY OF SIZE 5000X 2000 MM FABRICATED OF ISMC 75X40 THICKNESS AND SHALL BE OF ROBUST CONSTRUCTION CAPABLE OF WITH STANDING INPUT LOAD AND THERMAL STRESSES ENCOUNTED DURING OPERATION THE TROLLY FRAME WILL BE MOUNTED ON PROPORTIONATE M.S.WHEELS FITTED WITH ANTIFRICTION GUN METAL BUSHES. THE TROLLY WINCH TYPE WILL BE SUITABLE TO CARRY 6 TONS OF MATERIAL ALSO HAVE MOTORISED SYSTEM FOR TRAVELING ON BOTH SIDES.

CONTROL PANEL

ONE NO. CONTROL PANEL NEATLY FABRICATED & PAINTED COMPRISING OF FOLLOWING WILL BE SUPPLIED ALONG WITH FURNACE.

- a) ONE NO. PID CONTROLLER WITH C-LEAD & THERMOCOUPLE.
- b) CONTROL FOR FAN ASSEMBLY.
- c) CONTROL FOR BURNER
- d) MAIN SWITCH.
- e) VOLT METER.
- f) A-METER.
- g) PHASE INDICATOR.
- h) NECESSARY INTER LOCKING AS PER YOUR REQUIRED.
- i) PLC WITH SCADA FOR AUTOMATIC OPERATION FOR OVEN.
- j) HOOTER.
- k) TOWER LIGHT
- l) 5 NOS DIGITAL INDICATOR WITH THERMOCOUPLES AND LEAD REQUIRED.

MOTOR : ABB / CROMPTON / SIEMENS

CONROLLER : HONEY WEL

SWITCH GEAR : SIEMENS

EXCLUSION

1. CIVIL FOUNDATIONS & TRACK.
2. GEAR OIL.
3. CABLE FROM MAIN SWITCH TO UTILITES.
4. BOARDING FOR ERECTION PERSONS.

FOR MACRO FURNACES (P) LTD.
S.K.SHARMA

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OFFER NO : 056
DATE : 20TH JULY 2023.

COMMERCIAL ANNEXURE

TERMS & CONDITIONS

PAYMENT : 40% Advance with confirmed Order.
: 55% Against Performa Invoice Prior to dispatch.
: 5% Progressive payment during erection & Commissioning of plant Machineries.

TAXES & DUTIES : GST 18%.

PACKING CHARGE: Extra at actual.

INSURANCE : To the Buyers A/C.

TRANSPORTATION: Transportation charges will be extra at actual.

INSPECTION : Inspection may be carried out at our works in Faridabad by you or any designated Inspection Agency but at your expenses

DELIVERY

Within 4 months from the date of receipt of your Demand Draft as advance. The delivery period shall be applicable from the date of receipt of firm order with full advance / deposit and clarifications etc. The time of delivery is given in good faith & may vary if process condition go beyond our control.

EXCLUSIONS FROM OUR SCOPE OF SUPPLY:

- 1) Power generation unit with necessary electrical switchgears, change over switch etc.
- 2) Cable trays, Water, Oil piping under ground stretches with necessary protective covering sheets, overhead tanks EOT CRANE etc.

Contd.....2

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: 2 :

- 3) Any kinds of civil, masonry works like foundation for machineries, cooling water tanks, over head tank, chimney base, D.C. Casting pit, cable trench etc.
- 4) All consumables items during erection and commissioning like Hydraulic oil, Gear oil, Cutting oil foundry lining material, foundry tools etc.
- 5) Plant electrification the lighting load, electrically fitting, sanitary arrangement, weight balance facilities for foundry and production department.
- 6) Oil storage tanks.
- 7) Workshop machineries and tools.
- 8) All other items or spare, which is not specified and indicated in our document.

CANCELLATION

The Customer on any reason shall not cancel the order placed. The entire payment shall be forfeited in case of cancellation of order.

JURISDICTION :

All matters arising out of this Order Acceptance shall be subject to Faridabad Jurisdiction only.

FORCE MAJEURE

1. If either the Buyer Or the Manufacturer is unable to fulfill any obligation due to circumstance beyond its control and occurring without its fault OR negligence, including, but not limited to, acts of God, hostilities OR War, act of public enemy, restrains OR any de jeure OR regulations OR strikes OR other labor disturbances, fire explosion, flood OR accidental damage, the party affected shall notify the other of the circumstances as soon as possible. The occurrence of

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event of Force Majeure of Commence to the affected party as soon as practicable.

Contd.....3

: 3 :

2. The party affected shall be entitled to have a corresponding extension of time for fulfilling its obligation and the other party shall not claim any damage OR lodge any other claim in respect of loss incurred by reason of the delay.
3. If the delay exceeds three (3) months, the parties shall meet together to agree on
 - a) a new date for fulfilling the obligation of the Contract, OR
 - b) Other settlement including amendment of the terms and conditions of the contract.

WARRANTY

We hereby Warranty the equipment quoted to you for the period of 18 month from the date of dispatch OR 12 month from the date of commissioning, whichever is earlier, as follows:-

1. We warranty that the equipment supplied by us are of good workmanship, design and materials, and free of mechanical defects. If, within a period of warranty, part OR parts of the equipment supplied is proven to be of defective workmanship OR materials, we shall, at our own option either repair OR supply such parts as quickly as possible, at our own expenses, provided that the equipment supplied is installed under the supervision of our supervisions and operated in normal working condition.
2. All costs in connection with dismantling of such defective part OR re-installing of new part are to be borne by you.
3. We shall be without liability for any operation delays OR damages caused by such defect, and we shall be relieved from the warranty should any modifications, changes OR alterations on equipment supplied by us, are made without our prior written consent.
4. This warranty shall not be applied to consumable parts such as Oil Seals, O-Rings, Rubber components, Electrical items etc and other tools as well as parts subjected to normal wear and tear.
5. You shall inform us as soon as possible after such defects occur, starting in writing the nature of the defect.

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6. Warranty period for items repaired / replaced shall not exceed the period for which equipment was originally warranted. All defective parts removed from the machine(s) during the warranty coverage shall become the property of Macro Furnaces Pvt. Ltd., and Macro Furnaces Pvt. Ltd. Person(s) shall be entitled to carry away such parts.

Contd..... 4

: 4 :

7. Macro Furnaces Pvt. Ltd., shall not be liable to consumer OR any third party for any loss of production, time, or profits or any monetary losses OR any special OR consequential damages whatsoever resulting from use of machine.
8. Macro Furnaces Pvt. Ltd., reserve to right to make changes, addition OR improvement in its machine without assuming any obligation to incorporate such changes, addition OR improvement OR its machines previously manufactured / sold.
9. This warranty is expressly made in lieu of the warranties of merchantability and fitness for use and other warranties expressed OR implied.
10. The warranty is not assignable without components received by us from Suppliers shall be passed on to you.

COMMISSIONING:

We shall depute our personal for erection & commissioning at following terms and conditions :-

1. You have to provide a Category wise Lodging & Boarding for our Supervisors Staff and Workers.
2. You have to provide local transportation from city to site.
3. Our personnel should be provided with necessary assistance of manpower, Tools and Equipment's OR other requirements.

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4. Charges for the required Spare Parts will have to be borne by you.
5. Best medical treatment for First Aid for their illness and their injuries.
6. All possible protection for Safety and Security during their stay with you.

Contd.....5

: 5 :

7. Appropriate Office at the Site with telephone facility.

CONSULTANCY :

- 1) You have provided To & From Train / Bus Ticket, Lodging, Boarding & other incidental expenses till commissioning of plant or as required expert personnel visit by you.

For MACRO FURNACES PVT. LTD.,

S.K. SHARMA

DIRECTOR.

Works : Plot No. 2, 16/2, Mathura Road,

Faridabad. Haryana

Phone No : 0129 - 2260004 / 2260146

Mobile No: 9810976250

e-mail : macrofurnace@gmail.com

macro ltd@sify.com

Regd. Office : 3rd Floor, Sewak Bhawan,
16/2, W.E.A. Karol Bagh,
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