

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

Ref No: MFPL/ND/SKS/22-23/036

Date : 9<sup>th</sup> June,2023

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

Kind Attn: MR.MOHAN. N

Subject: YOUR REQUIREMENT OF GAS FIRED LOG HEATER

Dear Sir,

Thank you for your enquiry dated 9<sup>th</sup> June 2023. Based on the information furnished, we are pleased to enclose our offer for the following.

1. MFPL GAS FIRED (NG/LPG) SINGLE ROW/TUNNEL TYPE LOG HEATER WITH PUSHING ARRANGEMENTS. CAPACITY 2500 KG/HR.

PRICE: RS. 35,00,000=00 (RUPEES THIRTY FIVE LAC ONLY)

2. MFPL GAS FIRED (NG/LPG) SINGLE ROW TUNNEL TYPE LOG HEATER WITH PUSHING ARRANGEMENT.CAPACITY 1200 KG/HR

PRICE: RS. 28,00,000=00 (RUPEES TWENTY EIGHT 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)



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OFFER NO: MFPL/ND/SKS/22-23/036

DATE :  $9^{TH}$  JUNE 2023

# 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

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 : LPG 22-26 KG/TON

NG 28-32 SCM/TON

HEATING TIME : 1-1.5 HOURS (MAX.) FROM COLD CONDITION



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**GAS TRAIN (PRIMARY):** 1 SET

FLOW RATE 120 KG/HR ( 150 SCM/HR)

**INLET PRESSURE** 1.5 BAR TO 2.5 BAR .9 BAR TO 1 BAR OUTLET PRESSURE

PRESSURE GAUGE 6 NOS 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** 

3 NOS (SPRING TYPE)

PNEUMATIC CYLINDER

1"DA X 450 MM 3 NOS.

( 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** 

E-mail: macrofurnace@gmail.com sksharma@macrofurnaces.com

Contact: +91-9810976250, 95400-14821 GSTIN:06AAACM5608H1ZO



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#### **CHIMNEY**

DIA : 400 MM HEIGHT : 2 METER

MATERIAL : M.S THICKNESS : 5 MM

POWER VOLTAGE :  $440 \text{ VOLT} \pm 5\%$ 

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 RIGH TEMPERATURE.

#### **FURNACE REFRACTORY**

ONLY STANDARD REFRACTORY BRICKS AND CERAMIC FIBER OF SUITABLE QUALITY FROM REPUTED MANUFACTUERS 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 PRÉ-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.



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#### RAIL AND ROLLERS

S.S. 304 CASTED RAIL AND ROLLERS OF SUITABLE SIZE ALONG WITH S.S. 304 PIN WILL BE SUPPLIED BY US ALONG WITH FURNACE.

### 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.

### **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.
- THREE NOS THERMOCOUPLE WITH COMPENSATING LEAD.
- HIM CONTROL / PLC.
- OUT LET SIDE THERMOCPULE SETTING WITH TEMPERATURE AND DISCHARGING DOOR.

### GAS TRAIN (PRÍMARY)

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.



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RANGE 1KG/M2 – 20 M.BAR AND COMPLETE IGITION SYSTEM DETAIL GIVEN IN ENCLOSED TECHNICAL SPECIFICATIONS WILL ALSO BE IN OUR SCOPE OF SUPPLY.

#### LOG PUSHING ARRANGEMENT

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



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# 2 <u>TECHNICAL SPECIFICATION GAS FIRED LOG HEATER WITH PUSHING ARRANGEMENT</u>

### **TECHNICAL SPECIFICATION**

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

**EFFECTIVE DIMENSIONS** 

LENGTH : 12000 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 :

FIRING RANGE : .5 KG TO .75 KG PER BURNER

IGNITION SYSTEM : AUTO-MATIC

BLOWER : CENTIRFUGAL COMBUSTION AIR BLOWER

CAPACITY 1200 CFM

NO OF ZONES : THREE

CONTROL THROUGH DIGITAL INDICATOR /

**CONTROLLER** 

FUEL : LPG / 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 : LPG 22 - 26 KG/TON

NG 28 -32 SCM/TON

HEATING TIME : 1 HR - 1.5 HR FROM COLD CONDITION

GAS TRAIN

FLOW RATE : 80 KG/HR / 100 SCM/HR

INLET PRESSURE : 1 KG/CM2
OUTLET PRESSURE : 20 M.BAR
PRESSURE GAUGE : 3 NOS
PRESSURE REGULATOR : 3 NOS
SOLENOIDE VALVE : 3 NOS



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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 :  $440 \text{ VOLT} \pm 5\%$ 

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.

#### **BURNERS**

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



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#### GAS / AIR MIXING VENTURY

THREE NOS AIR / GAS MIXING VENTRUY 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.

### **RAIL AND ROLLERS**

S.S. 304 RAIL AND ROLLERS OF SUITABLE SIZE ALONG WITH S.S. 304 PIN WILL BE SUPPLIED BY US ALONG WITH FURNACE.

### 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.

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



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### **GAS TRAIN (SECONDARY)**

GAS TRAIN MAKE HONEYWEL COMPRISING OF PRESSURE GAUGE, FILTER PRESSURE REGULATOR, PRESSURE RELIEF VALVE.
RANGE 1KG/M2 – 20 M.BAR WILL ALSO BE IN OUR SCOPE OF SUPPLY.

### LOG PUSHING ARRANGEMENT

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

### **EXCLUSION**

- BOARDING LODGING FOR OUR WORKERS & SUPÉRVISOR.
- 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.

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FOR MACRO FURNACES (P) LTD

S.K. SHARMA



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

OFFER NO: 036

DATE :  $9^{TH}$  JUNE 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 3 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.

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



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- 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.

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- 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.
- 4. Charges for the required Spare Parts will have to be borne by you.



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- 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.

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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

macroltd@sify.com

Regd. Office: 3<sup>rd</sup> Floor, Sewak Bhawan,

16/2, W.E.A. Karol Bagh, New Delhi – 110 005