

CANDOUR TECHNOLOGY

VILL- JAKHODA DELHI ROHTAK ROAD, NEAR HANUMAN
MANDIR, BAHADURGARH, DIST- JHAJHAR, HARYANA, 124507, INDIA
Email- info@candourtechnology.in, website- www.candourtechnology.in

AMMONIA GAS VACCUUM NITRIDING FURNACE 1000KG

ANNEXTURE-A	TECHNICAL SPECIFICATIONS
ANNEXTURE-B	THE SELLER'S SCOPE OF SUPPLY
ANNEXTURE-C	EQUIPMENT ACCEPTANCE
ANNEXTURE-D	SCOPE OF SUPPLY AND
ANNEXTURE-E	EXCLUSION WARRANTY

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ANNEX A TECHNICAL SPECIFICATION

GENERAL DISCRPTION

The ammonia gas nitriding machine is a better solution for the surface treatment of die steel than prior salt bath nitriding. This machine has a high pressure chamber and a PLC controlled gas and heat monitoring system. After the starting of machine the chamber is filled with gas and can be filled upto 60 KPA, the gas trapped in vacuum chamber diffuses ammonia and forms a layer of nitride on the die surface and then automatically vacuum cycle starts and this process is repeated multiple times. This furnace can provide surface hardness of upto 1000 HV, and penetration depth of upto 15 microns which is almost double than salt bath. There is no need to clean the surface after Nitriding and dies can be directly sent to the next process.



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KEY FEATURES OF OUR MACHINE

- ● Temperature controlled by Thiristors , to achieve high accuracy nitriding conditions.
- ● First time specially designed Gas Holding System for better Knitriding.
- ● All seamless pipe lines to avoid leakages.
- ● Only copper gaskets used on flanges to increase durability of gas line.
- ● Specially designed heat exchanger. — coil type 0000 make
- ● Fully Automatic / Semi Automatic Operation. ← Both.
- ● HMI touch screen operation to avoid maintenance of push buttons and switches and reduce bulky wirings. ✓
- ● Special fine tuned gas flow control system. ✓
- ● Special diffuser to avoid pollution. ✓
- ● SCADA for keeping records of nitriding cycles → Added from last technical offer.

1. For Flow control two zones.
2. Vacuum pressure - 10×10^{-2} / $10 - 10^{-2}$
3. Controller soph. :-
4. Hydrogen - 20-50 LPM/min -
Pressure - 3 kg max.
5. Ammonia - pressure - 60 kpsi
Flow - 25 to 80 LPM




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2. Mechanical and Electrical Data

- WORKING PRESSURE.....60 KPA
 - CYCLE TIME.....8 - 12 HRS
 - ELECTRICAL POWER.....75 KW
 - SIZE.....DIA 1550MM X 1700H
 - TEMPRATURE MAX.....560°C
 - VACCUM PUMP → *Kirloskar Make.*.....KV 30
 - CHAMBER.....SS310, 750mmX1200mm *Tank*
 - GAS PANEL.....400X400X1100mm *Common*
 - HEATER → *Nickame Wise*.....HIGH QUALITY N1Cr *SS 310*
 - ELECTRICAL MOTOR VOLTAGE.....3 PH 415V AC +- 10%
 - FREQUENCY.....50HZ
 - PLC.....SCHENIDER M200
 - SWITCH.....SCHENIDER
 - RELAYS.....SCHENIDER
 - PANNEL BOX.....RITTAL
 - MOTORS. → *ABB/ ~~Crompton~~ *Signature**.....KIRLOSKER/CROMPTON
 - CAPACITY.....1000 KG
 - HMI.....10" SCHNEIDER
- * Optional Model with Nitrogen Cooling.

- *Insulation bricks*
- *Ceramic Blanket*
- *6 heaters -  Total 75 KW*
-

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Added

3. SCADA

10-inch IPC with Scada → Added

IPC Specs as below:-

1. Processor – Core i3 8145UE, 2 Core, 4 Threads
2. Screen Size 10 inch
3. 8GB RAM
4. 1TB Hard Disk
5. Window 10 Enterprises IoT
6. 1x Serial Port RS232
7. 2x Ethernet
8. 2x USB 2.0
9. 2x USB 3.0
10. DP++ Port
11. AC Power 220VAC

→ 12. Energy meters - RS 485 ✓

SR. NO.	Product Reference	Quantity	Scope of Work	Description
1	HMIP63D20N808N3N00	1	Schneider	IPC 10 INCH
2	HMIEMSERT1KA	1	Schneider	EMSE 1.5K Tag Run Time License
3	HMIEMSEBT1KA	1	Schneider	EMSE 1.5K Tag Build Time License

→ SCADA / PLC backup will be provided by party

→ Power consumption report for each cycle/Batch

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ANNEX B SELLER SCOPE OF SUPPLY

EQUIPMENT DETAILS

- NITRIDING CHAMBER..... 1 NOS →
- • HEATING CHAMBER 1 NOS → SS310 made
- • VACCUME DEFUSEING UNIT 1 NOS
- • ELECTRICAL PANNEL 1 NOS ↙
- • GAS PANNEL..... 1 NOS
- AMMONIA REGULATOR..... 1 NOS
- CONNECTION CABLES 10 MTRS EACH
- STANDARD PACKING..... PLASTIC WRAPED

→

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ANNEX C EQUIPMENT ACCEPTANCE

- • Equipments have been installed according to installation handbook provided by seller. } Operation and maintenance manual will be submi
- • Commissioning and acceptance are performed after erection which affirmed by both seller and buyer through signatures. ✓
- • Equipments have been installed according to installation handbook provided by seller.
- All external facilities correlative with electrical power, compressed air, water, etc by buyer's factory are connected. }

- note: Party will take two bath trial at their end before dispatch of furnace.
- Final will provide dies for trial purpose.
- Party assured for achievement of white layer between 4 to 8 microns.

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ANNEX D SCOPE OF SUPPLY AND EXCLUSION

Our supply includes :

- • Equipment specified in this specification
- • Following wiring works and materials
 - 1.1 Between terminal box and limit switch or other sensors
 - 1.2 Between terminal box and solenoid valve
 - 1.3 Inside of panel
 - 1.4 Special cables of electrical
 - 1.5 Between sensor and PLC panel
 - 1.6 Thermo-couple cables (30m each)
 - 1.7 Hydraulic piping works and materials inside the machine
 - 1.8 Pneumatic piping works and materials between solenoid valve and actuator
 - 1.9 Pneumatic piping works and materials between solenoid valve and supply point

← Above are up to equipment (Battery limit).

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Our supply excludes :

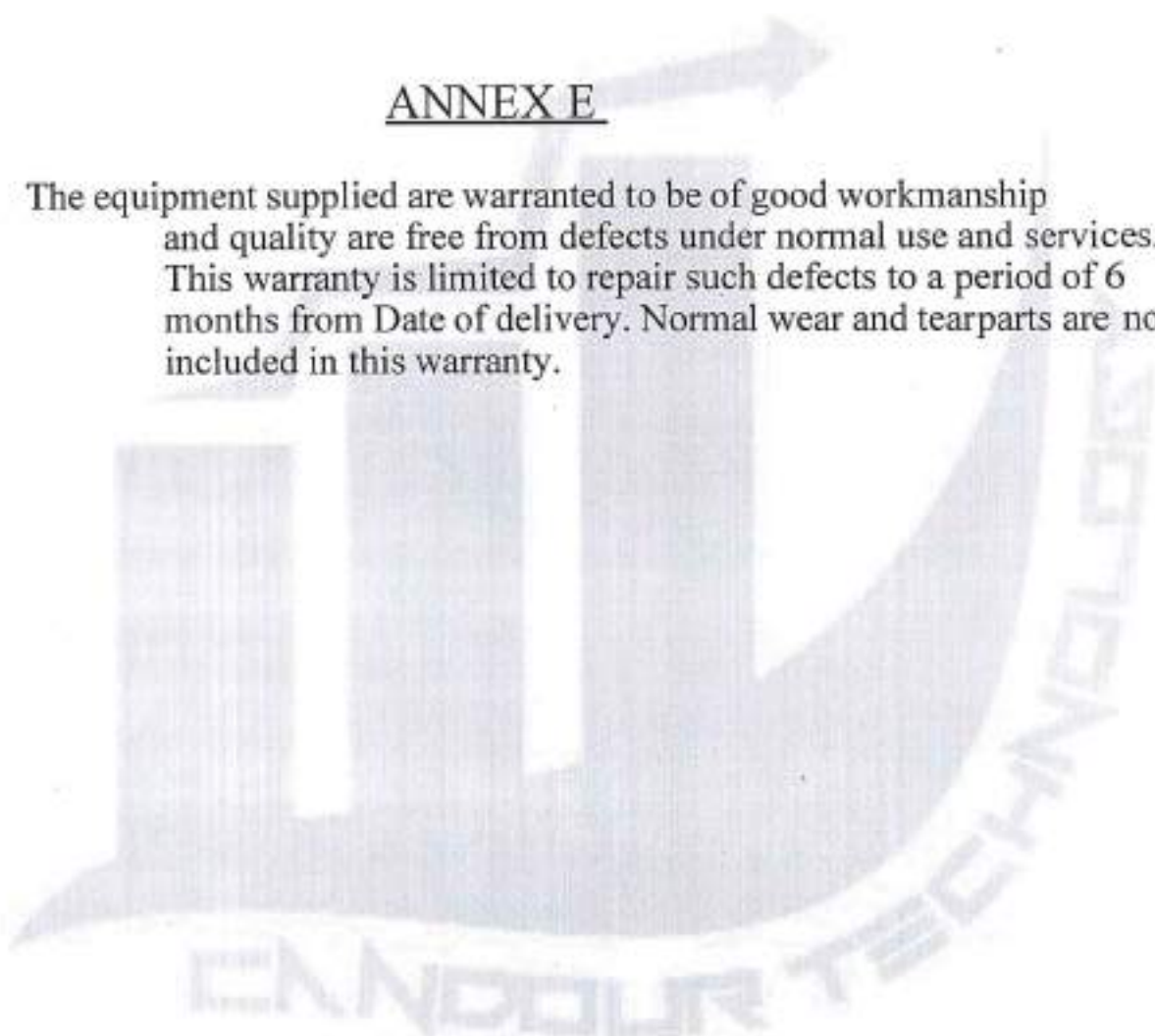
- 2.1 Foundation, erection, installation works and the materials ←
- 2.2 Wiring works and materials, not described in Item 1.1-1.4 scope of supply such as between control panel and terminal box, between control panel and operation panel, between operation panel and terminal box etc. ←
- 2.3 Piping works and the materials outside the equipment
- 2.4 Re-piping works inside the equipment ←
- 2.5 Hydraulic oil and other expendable — Party slope.
- 2.6 Compressed air source and its piping → Dry Air Line
- 2.7 Cooling water source and its piping —
- 2.8 Pit cover and corner angle clips for foundation —
- 2.9 Compressed air and water for installation
- 2.10 Items not described in this specification

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ANNEX E

The equipment supplied are warranted to be of good workmanship and quality are free from defects under normal use and services. This warranty is limited to repair such defects to a period of 6 months from Date of delivery. Normal wear and tear parts are not included in this warranty.



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Delivery time.

Delivery time: ~~90 DAYS~~ after advance 50%.

PACKING

STANDARD PACKING

PRICE

RS = 20,00,000.00 INR (TWENTY LAKHS ONLY)

(ALL THE PRICES ARE FOR EX FACTORY BAHADURGARH, HARYANA, INDIA)

*(NOTE: FREIGHT, HANDLING, FORWARDING AND SPECIAL PACKAGING EXCLUDED FROM THE PRICE AS QUOTED)

CONDITION OF PAYMENT

- 50% ADVANCE AT THE TIME OF PLACING ORDER - 10% Advance against CAQ (Basic value) with undated cheque valid for 90 days from the date of order.
- 48% BEFORE DELIVERY - 80% with 100% GST within 7 days from the date of receipt of furnace. Subject to submission of
- 10% 2% AFTER COMMISSIONING AND TRAINING - 5% (Basic value) PBQ valid for one year from the date of commissioning.

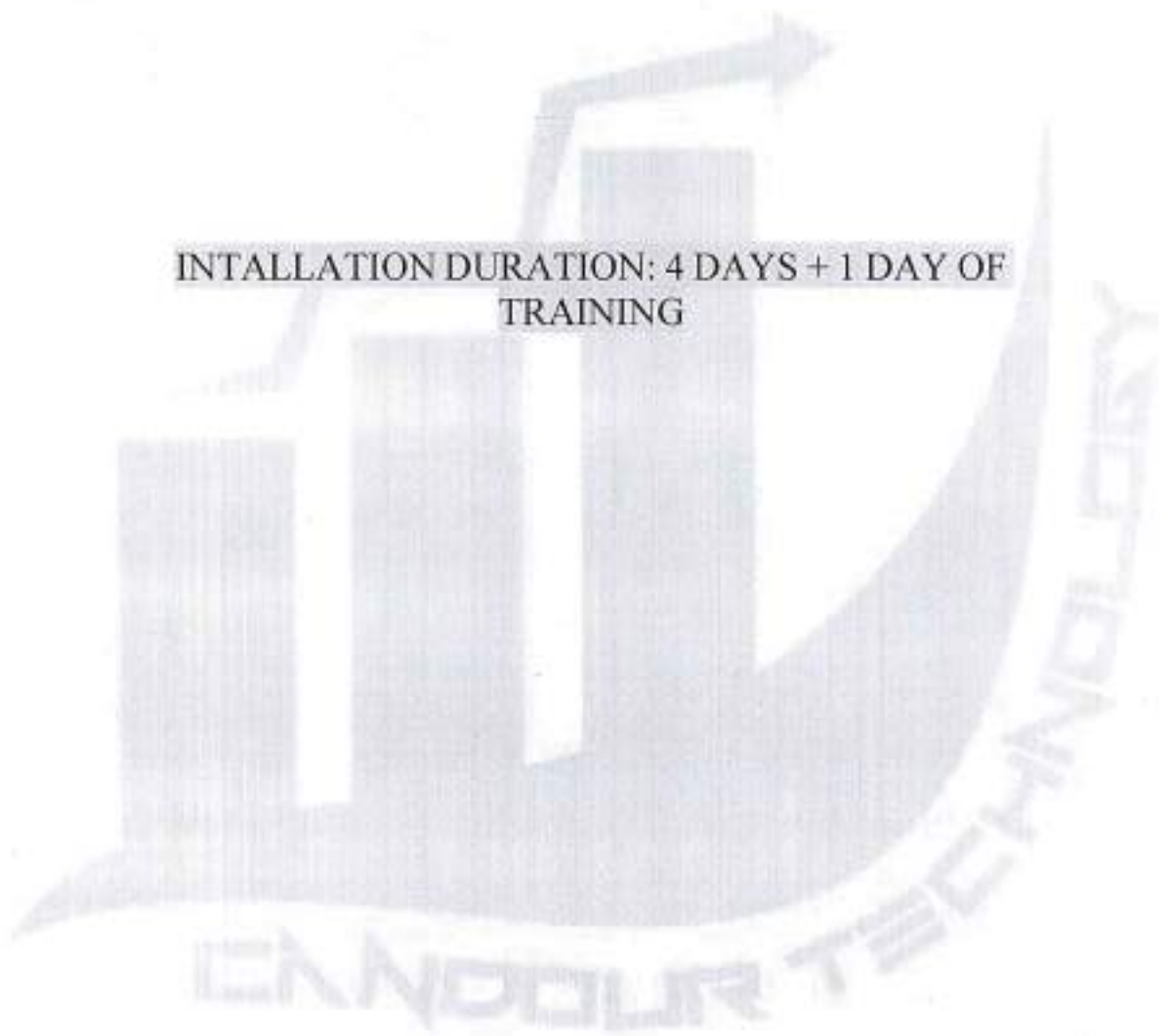
Installation and Training

- a) Installation and training will be carried seller's by our engineer & technician. Duration of installation is 5 days
- b) Buyer shall pay and provide the following:-
- . Accommodation and food will be Provided by buyer - JAL Scope in supervisor
 - . Round-trip Flight tickets for 2 Engineers and Rs-2000/day salary after 5 days. (if installation is delay due to any reason by the buyer will bear additional charges) - JAL Scope

- ESI/PF- Party scope.
- Unloading - JAL Scope and positioning - JAL Scope.
- Civil design for making pit in party scope
- Civil pit/foundation in JAL Scope.

* Burning . Provision for gas burning

INTALLATION DURATION: 4 DAYS + 1 DAY OF TRAINING





THANK & REGARDS

ANKIT KAHALIYA (SALES & MARKETING HEAD)

MO- +91-8053605371

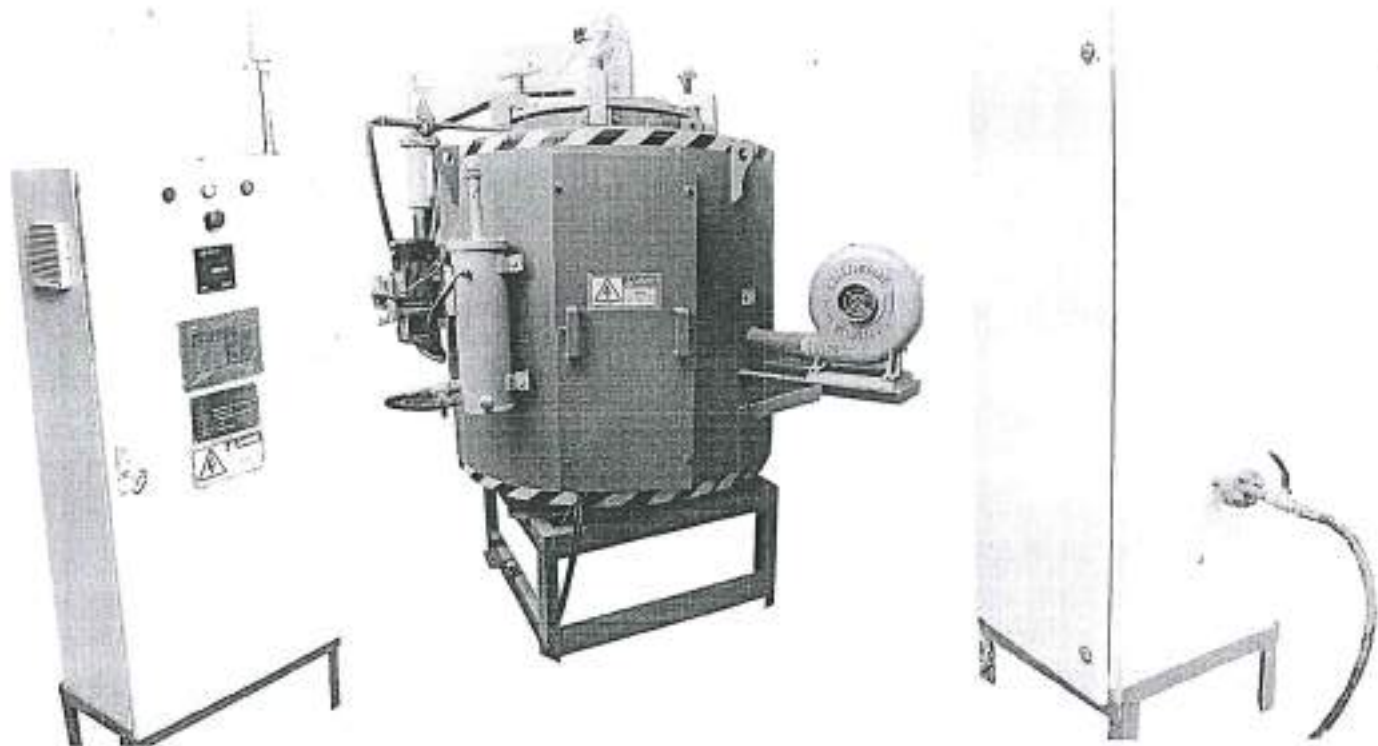
SUJEET SINGH (Chairman)

+91-822860905/9896517656

*** OFFER VALID ONLY FOR 1 MONTH ON RECEIPT OF THIS**

(If any further enquiry please feel free to contact us)







KANHA TESTING LABS PVT. LTD.

(CIN : U93000HR2013PTC048202)

407/7-E, Kadipur Industrial Area, Near Rao Service Station, Opp. Sector-10, Gurgaon - 122 001 (Hr.)

E-mail : kanhatesllab@gmail.com, Website : www.kanhatesllab.com

TEST REPORT

Customer Name & Address	Pyrotherm Technologies, Plot No.-310, Sector-6, IMT Manesar Gurgaon 122050	ULR No.:-	TC6522230000019667F
		Report No. :-	139499
Sample Reference Provided by the Customer	Candour Sample <i>Batch provided by Jindal for Total</i>	Issue Date :-	23-1-2023
		Job Order No. :-	23A0247-2
		Sample Recd. Date :-	20-1-2023
		Testing Start Date:-	21-1-2023
		Testing End Date:-	23-1-2023
Kind Attention:	Mr. Sanjay Prasad	Laboratory Environment	
Email ID	info@pyrothermtechnologies.com	Temperature	23 ± 5°C
Contact No.-	Relative Humidity	20-80 %

TOTAL CASE DEPTH :- (Test Method as per IS 6416-2022 By Microscopic method)



OBSERVATION:-

MAG. - 100X

S.No.	Nitriding Layer Thick. (Micron)
1	112.8
2	117.9
3	115.6
4	120.6
5	118.9
AVERAGE NITRIDING LAYER	117.1

Micron

End of Results

Janak
Checked By



T-2690, T-2691



Sample Collection Centre - Neemrana

Address : Janak Singh Pura, NH-8, Near Chinnar Hotel, Opposite - Japanese Zone, Neemrana (Raj.) Cont. No. 08510061316

Technical Division - 9911137125, 8510061315, 319 Marketing Division - 8510061317, 318, 320, 321 Customer Care - 0124 - 6544481

KTL-QF-01

For Term & Condition P.T.O.



KANHA TESTING LABS PVT. LTD.

(NABL ACCREDITED LABORATORY)

(CIN : U93000HR2013PTC048202)

40777-E, Kadipur Industrial Area, Opp. Sector-10, City Bus Depot, Gurgaon - 122 001 (Hr.)

E-mail : kanhatestlab@gmail.com, Website : www.kanhatestlab.com

TEST REPORT

Report No. : 139499

Issue Date : 21-Jan-2023

Customer Name : Pyrotherm Technologies, Plot No. 310, Sector-6, IMT Manesar, Gurgaon-122050
Job Order No. : 23A0247-2
Sample Recd. Date : 20-01-23
Sample Reference : Candour Sample
Testing Start Date : 21-01-23

Testing End Date : 21-01-23

TEST RESULTS

Temperature at testing time : 24.2°C

Hardness Test:- (Test method : Instrument operation manual (IS 1501(Part 1),2020 for ref. standard))

Surface hardness

Sr. No.	1	2	3	4	5	
Result	1091.4	1104.4	1099.7	1101.2	1096.4	HV0.1

Average = 1098.6 HV0.1

End of Results

Checked By

★ CUSTOMER SATISFACTION IS OUR FIRST PRIORITY ★



Sample Collection Centre - Neemrana

Address : Janak Singh Pura, NH-8, Near Chinnar Hotel, Opposite - Japanese Zone, Neemrana (Raj.) Cont. No. 08510061315

Technical Division - 9911137125, 8510061315, 319 Marketing Division - 8510061317, 318, 321, 116 Customer Care - 0124 - 2372456

KTL-QF-01

For Term & Condition P.T.O.



PIT TYPE NITRIDING FURNACE

*Furnace working capacity,
1000 kgs.*

Sr No	Description	
1	Useful Dimension	800 mm X 1500 mm
2	Overall Dimension	1800 mm X 2850mm
3	Capacity	1300 Kgs <i>working cap - 1000 kgs. Ref. Batch.</i>
4	Max. Temperature	700 °C
5	Normal Working Temp.	500-650 °C
6	Basket Dim	700mmDia X 1200mm
7	Power Required	72 KW Heating + 3 H.P.Fan Motor + 1 H.P.Hyd.Lifting + 3 H.P Cooling Pump
8	Electric Supply	415 +5%V, 3 Phase , 50 C/s
9	Type of Insulation	Furnace is insulated with ceramic fiber vacuum form board and blanket lining Insulation Thickness: 305 mm Furnace outside shell temp rise :- Ambient + 25C
10	Hydraulic Pump Motor	1 H.P. We provide 1 H.P. Std. Make Hydraulic Power Pack System with 01 No. Cylinder For Lifting door assembly.
11	Door Lifting	Electro Hydraulic System with 01 No. Cylinders, 01 No. Power Pack with Solenoid valve & Limit Switch are provided for Door Lifting Arrangement Solenoid Valve: Rexroth Limit Switch: Cutler Hammer
12	Gas Re-circulation Fan Motor	3 H.P. Motor with Stainless Steel 310 Fan with water cooled fan assembly for gas re-circulation.
13	Material For Retort	Furnace have 01 Nos. AISI 310- 6 mm thick retort. Size: 1000 mm Dia x 1800 mm H. Heavy section



THERMOCHEM FURNACES PVT.LTD.



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/2023/21/04/R0

April 21, 2023

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

Email:-abhatia@jindalaluminium.com,rajgopal@jindalaluminium.com

Kind Attn.:- Mr. Rajgopal Sharda (Purchase Department)

Sub. :- Techno- commercial offer for Without Pit Type Atmosphere Nitriding Furnace-1300
Kgs/batch

Dear Sir,

This has reference to our telephonic discussion regarding nitriding furnace without KN control for Pit Type Nitriding Furnace for Dies as per your details & requirement. 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,

		TIG welded fabrication incorporating bottom support grid.
14	<u>Furnace Casing</u>	Mild Steel – 5 mm thick Furnace shell is made from Mild Steel plates – 5 mm for side wall and furnace top & bottom is fabricated with 10mm M.S. Plate.
15	<u>Heating systems</u>	Furnace heated by Sinusoidal Strip/Wire Type Heating Element Mounted on surrounding of side wall for better temperature uniformity
16	<u>Material for Water Jacket</u>	Mild Steel Water Jacket is made from M.S.Steel-10mm and Silicon Rubber Ring in door for tight ceiling of Door
17	<u>Thermocouple</u>	Furnace has 02 Nos. "K" Type Thermocouple
→	18 <u>Atmosphere supply system</u>	Furnace supplied with Ammonia Flow meter, Nitrogen, LPG, solenoid Valve, non return valve, etc.
→	19 <u>No of Zone Outside Retort</u>	02 Nos of temperature control zone outside retort
→	20 <u>Furnace Temperature Uniformity</u>	+/- 4 C ✓
→	21 <u>Instrument Control Accuracy</u>	+/- 1 C ✓
→	22 <u>Furnace temperature raise time</u>	<= 2.5 hr ✓
→	23 <u>Cooling Blower</u>	Furnace have the provision of cooling blower 01 Nos 3 H.P for cooling the furnace after completion of cycle
→	24 <u>Ammonia Gas Burning</u>	Furnace have the provision of Pilot Burner to Burn the Exhaust Ammonia Gas ✓
→	25 <u>Temperature control</u>	→PID Temperature Controller :- 01 Nos ✓ →Safety Temperature Controller :- 02 Nos ✓ →Thyristor Power Regulator :- 02 Nos ✓ → K-Type Thermocouple -2 Nos. ✓ → Control Switches ✓ → Safety Fuses ✓ → Indicating Lamp Sets ✓ → Auxillary Contactors ✓ → Main Switches ✓ → Amp. & Volt Meters ✓ →Tower light will be provided as a Hooter ✓
→	26 <u>Documentation</u>	Complete Operating, Maintenance manuals will be provided ✓

M.S

M.S

Bank / Pane

THERMOCHEM FURNACES PVT.LTD.

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

COMMERCIAL OFFER:-

Sr. No.	Description	Qty.	Rate
01	Electrically Heated Nitriding Furnace-1300 Kgs Batch Capacity <ul style="list-style-type: none">• Useful Dim. :- 800 mm X 1500mm• Basket Dim :- 700mm X 1200 mm• Power Require :- 75 KW• S.S. 310 Retort - 1 No.• S.S. 310 Fan - 2 H.P.• Ceramic Fiber Insulation• Ammonia, Nitrogen, LPG, etc Manifold with Flow meters etc• Hyd. Door with Power pack 1 H.P-• With Automatic Temp. & Power Control Panel.	01 Nos.	49,00,000/-
02	Erection Commissioning Charge To & Fro Tickets , lodging & boarding in customer scope	Lump sum	1,50,000/-

Rs. 42,00,000/-

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Ph. No.(02752)243811,Fax :(02752)241813 E-mail :thermochemfurnace@hotmail.com

Terms & Conditions:-

PRICE BASIS	At your Works Bhiwadi ✓
FREIGHT	<u>Paid Basis</u> ✓
PACKING & FORWARDING	20000/-Rs-Extra → For CI
GST	<u>18% Extra</u> ✓
TRANSIT INSURANCE	Has to be arranged by Purchaser. However we will immediately dispatch the particulars - SAC scope.
DELIVERY TIME	<u>Within 4 Months</u> ✓ 10 weeks 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	→ 25% → 65% → 40% as advance along with the order. 50% of Ex-works value+100% taxes & duties after pre dispatch inspection and prior to dispatch and receipt within 7 da 10% after commissioning subject to submission of PBC Valid for one year.
ERECTION & COMMISSIONING 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 N.A
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 N.A
INSPECTION	If you require <u>physical/visual</u> inspection of the equipment in knocked down condition, can be had will be deticled ✓

	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	<p>We stand WARRANTY for the equipment against defective design/faulty workmanship for a period of <u>18 months from the date of dispatch of equipment</u> or <u>12 months from the date of commissioning</u> whichever is earlier.</p> <p>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.</p>
VALIDITY	30 Days
JURISDICTION	All dispute are subject to Surendranagar jurisdiction
CANCELLATIONS	<p>In case of cancellation of LOI / Purchase order, following cancellation charges will apply.</p> <p>Within 1 month of LOI / Order: 20%</p> <p>Within 2 month of order: 50%</p> <p>After 2 months of order: 100%</p>



ARS Sewing Needle Manufacturing Company

Q Kh No. 16/11/2, Tardaheri Road, Sector - 33,
Bahadurgarh - 124507, Haryana (INDIA)
☎ +91- 8683912293 ✉ arsneedles@gmail.com

ARS/ 2022 - 23/01

26.12.2022

To,
Mr. Raj Gopal
Jindal Aluminum Ltd.

Sub : Quotation for Electrically Heated Pit Pot Vacuum Gas Nitriding furnace

Capacity 1000kgs.

Dear Sir,

This refers to our detailed discussion regarding your requirement of Pit Pot Vacuum Gas Nitriding Furnace with accessories.

As desired, we are pleased to quote as under.

Sl. No.	Qty	Description	Price Each.
1.	1 No.	Electrically Heated Pit Pot Furnace duly lined with ceramic fiber and HFK Bricks on sides and C.F and HFK bricks on bottom. Heating elements on high alumina special shaped bricks, Pot assembly and Control Panel, Gas Panel generally as per para. 2 Technical data, para. 3 Scope of supply of our specification No.26122022/01.	Rs. 32,55,000.00
2.	1 No.	Exhaust Pot & Pot Cover made out of S.S 310 -6mm thick with mild steel water jacket for Pot & Lid, Neoprene sealing, Fan Assembly with 3 HP Motor, Gas inlet & outlet pipes.	Rs. 11,20,000.00
3.		Erection and Commissioning Charges.	Rs. 50,000.00

Final Agreed Price Rs. 33,05,000/-

TERMS & CONDITIONS

- Price basis : ~~Ex-works un-packed~~
- GST : 18%
- Payment : 50% advance and balance along with Taxes against Pro form Invoice prior to dispatch.
- Delivery : ~~14 to 16 weeks from the date of P.O with Advance payment~~
- Validity : 15 Days

FOR-5% BWD - Incl freight charges. As agreed. 12 to 14 weeks

We are sure you will find our offer in line with your requirement and now we look forward to hear favorably from you. In the mean while thanking you and assuring you our best services at all times, we remain

Thanking you,
Yours faithfully,
For ARS Sewing Needle Manufacturing Company

Parveen Gautam
(Proprietor)



Payment: —

→ 25% Advance against a BQ value for 20 weeks from the date of issuance.

→ 55% + 100% GST within 7 days from the date of receipt of furnace.

→ Bal - 20% After Commissioning subject to submission of PBC Valid, for one year. If Commissioning not complete in 10 days then will release PBC

ATN

SPECIFICATION No.26122022/01

Capacity of furnace
1000 kgs.

1.0 INTRODUCTION

Electrically heated pit pot Vacuum Gas Nitriding Furnace

DESCRIPTION

Electrically heated pot furnaces are pit type furnaces with electrically heating and good heat insulation. These furnaces are provided with a gas tight pot fabricated out of stainless steel S.S-316. The gas tight sealing between the pot and pot cover is achieved by water cooled neoprene ring and clamps.

The insulated pot cover closes the pot gas tight. The materials are either loaded directly inside the pot or loaded in charge carrier arrangement.

The temperature of the furnace is controlled by the temperature controllers automatically in one or more heating zones by on/off via Air brake contactors.

2.0 TECHNICAL DATA

Type of furnace	: Pit pot type Furnace
Pot size	: 1000 mm Dia x 1400 mm depth
Useful working size	: 650mm dia x 1100 mm depth
Power supply	: 3 phase, 415 v, AC 50 Hz
Type of control	: Automatic on/off
Heating load	: 60 KW
Max. temperature	: 750 degree C
Working temperature	: 650 degree C
No. of heating zone	: 2 Nos. 30 KW each.
Heating elements	: Ni / Cr 80:20 Wire
Fan Assembly	: 5 HP with S.S 316 Fan.

Contd-2.



- Thickness of furnace shell : 5 mm mild steel
- Furnace Top plate : 12 mm thick.
- Insulation lining : The furnace will be lined with energy saving ceramic fiber blankets 128 grade and HFK bricks.
- Skin temperature : 35 deg C above ambient

3.0 SCOPE OF SUPPLY

FURNACE

- The furnace consists of a sturdy structural steel frame with sheet steel wall, high quality thermal insulation ceramic fiber blanket lining and Heating elements. ←
- The heating elements are made out of NiCr 80/20 wire. ←
- The temperature of the heating elements is controlled by thermocouple located with furnace wall and automatic temperature controllers.
- The furnace housing is provided with a sturdy structural steel ring frame on the top, from which the pot is suspended. The ring is provided with asbestos rope sealing, which ensures leak proof joints between ring and pot flange.
- One No. S.S-316 Pot with Lid, Fan Assembly and 2 Charge Basket (650 Dia. x 550 mm Hi.) → Not considered

AUTOMATIC TWO ZONE TEMPERATURE CONTROL PANEL

The furnace temperature is controlled automatically through the temperature controllers. The necessary temperature measuring and controlling equipments for suitable connected load will be arranged in a rectangular shape, neatly welded steel cabinet of modular construction with door opening. The cabinet is Powder coated and shall be completely ready assembled with the following.

- a) Air break magnetic contractor
- b) Overload Relays
- c) 6Nos. Ammeter with CT
- d) 1 No. Volt meter with selector switch
- e) MCB
- f) Rotary Switches
- g. Indicating lamps
- h. Main Isolator

No Scada and PLC is in the panel.



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GAS PANEL

- a) Ammonia gas control panel with flow meter.

VACUUM PUMP

- a) 2 HP Rotary Vane Vacuum Pump with fittings.

TEMPERATURE MEASURING INSTRUMENTS

- a) Digital type Temperature Controller -Make : Autonics
b) Timer with Hooter arrangement for heating and cooling cycle over alarms.

Note:-Inter- connecting cable including its laying out and installation, earthing, etc. are not in our scope of supply.

PAINTING

The furnace will be painted with heat resistant Aluminum paint and the control panels shall be Powder coated.

For ARS Sewing Needle Manufacturing Company

Parveen Gautam
(Proprietor)

