

Code No. \_\_\_\_\_

**SPECIFICATIONS:****“Infra Red Oven (On Turnkey Basis)”****Qty: 01 Set**

S. No.	Description of requirement	Required
	<b>The infrared oven is used to heat thermoplastic material</b> Material cart with rotation function for switching between sheet materials and vacuum sockets, sensor for programmable measurement of the blister depth for vacuum formed sockets tower light for visualizing the operating status, including 2-stage alarm function.	Confirm
<b>A</b>	<b>TECHNICAL SPECIFICATION</b>	
1	Electric Supply V/Hz/kW	3x 400 ± 6%/50-60 ± 3%/8.5
2	Area Classification	Non-hazardous / safe
3	Type	Fixed Type
4	Location	Indoor
5	Capacity	700 l (minimum)
6	Housing	SS for both front and interior
7	Housing closed on the bottom	Confirm
8	Vertically opening sliding door with dual gas compression spring support and double-glazed viewing window	Confirm
9	Interior lighting	2 x 25W illuminants (minimum)
10	Opto-electronic IR-measuring head for measuring the material surface temperature	Confirm
11	PID controller capable of temperature variation	30°C to 250°C (At least)
12	Temperature display with nominal and actual values	Confirm
13	Heating process record with graphical gradient display	Confirm
14	PLC with touch panel	Confirm
15	PLC program update via external USB Port	Confirm
16	Programmable timer function	Confirm
17	Multilingual user interface (English is must)	Confirm
18	Control box with plug connectors for straight forward complete replacement in case of repair	Confirm
<b>B</b>	<b>MATERIAL CART</b>	
1	Working frame with loose support plate for switching between sheet materials and vacuum formed sockets	Confirm

2	Mobile with locking casters	Confirm
3	Material cart usable space WxD	1,200 x 1,000 mm (minimum)
4	Working height	1,000 mm (minimum)
<b>C</b>	<b>INFRARED RADIATOR</b>	
1	Panel heating with min. 18 infrared quartz tubes, with individual reflectors	Confirm
<b>D</b>	<b>OVEN DIMENSION</b>	
1	Interior dimensions (WxDxH)	1300 x 1000 x 500 mm (minimum)
2	Outer dimensions (WxDxH)	1600 x 1200 x 1400 mm (minimum)
3	Weight	325 kg (minimum)
<b>E</b>	<b>ACCESSORIES</b>	
<b>1</b>	<b>THERMAL GLOVES (TEMPERATURE RESISTANT)</b>	Confirm
1.1	Must be impregnated with flame retardant along with cuff	Confirm
1.2	Material	Woven cotton terrycloth
1.3	Length	270 mm (minimum)
1.4	Weight	160-200 gm
1.5	Color	White
1.6	Use	Suitable to Work with plastics
1.7	Quantity	10 Pair
<b>2</b>	<b>VACCUM FORMING TOOL KIT</b>	Confirm
2.1	Stand (WxHxD) mm	(360 x 450 x 250) (minimum)
2.2	Aluminium tensioning frame inside $\phi$ 360 frame suitable to material thickness up to 20 mm	Confirm
2.3	Square tube Bracket (Suitable & Compatible to overall working)	Confirm
2.4	Vacuum pipe with Vacuum forming plate	Confirm
2.5	Two way exhaust pipe	Confirm
2.6	Frame plate to be used for small models	Confirm
2.7	Inner diameter of frame plate	260 mm
2.8	Frame plate to be compatible to system	Confirm
<b>3</b>	<b>VACUUM FORMING WORKSTATION WITH INTEGRATED PUMP</b>	
3.1	Vacuum pipe on both side	Confirm
3.2	Integrated vacuum pump	Confirm

3.3	Foot switch to regulate the vacuum	Confirm
3.4	Tool Shelf	Confirm
3.5	Vacuum filter (to trap dust and other small particles which is capable of reducing the risk of operating failures and pump downtime)	Confirm
3.6	Vacuum pipe with replaceable vacuum forming plate dia 360 mm.	Confirm
3.7	Tank volume	15 l (minimum)
3.8	Dimension	(1500 x 450 x 950) mm (minimum)
3.9	Material	Steel
3.10	Delivery Rate	100 l/min. or 6 m <sup>3</sup> /hr (minimum)
3.11	Sound Intensity level	60 dB
<b>4</b>	<b>VACUUM PIPE WITH TWO EXCHANGEABLE VACUUM VACUUM FORMING PLATES</b>	Confirm
4.1	Vacuum connection dia.	( $\phi$ 6, $\phi$ 13, $\phi$ 25) mm
4.2	Adaptors for various vacuum connections as mention above.	Confirm
4.3	Vacuum forming plate	( $\phi$ 260, $\phi$ 360) mm
<b>5</b>	<b>THERMOFORMING DISK INTERCHANGABLE</b>	Confirm
5.1	Diameter	230 mm
5.2	Tensioning frame diameter	260 mm
<b>6</b>	<b>TWO WAY PIPE</b>	Confirm
6.1	Diameter	35 mm
6.2	Length	335 mm
6.3	Vacuum Connection Diameter	$\phi$ 6 mm
<b>7</b>	<b>CLAMP ADAPTOR FOR EXHAUST PIPE</b>	Confirm
7.1	Suitable to reduce mounting dia. Of exhaust pipe.	Confirm
<b>E</b>	<b>DOCUMENTATION</b>	
1	Detailed layout plan and prospect to be given (If any)	Each Documents 3 sets of hard copy and 1 set of soft copy along with delivery
2	Operating instruction	
3	Installation and Commissioning instruction	
4	Quality Test records (if any)	
5	Maintenance / repair charts	
6	Preventive maintenance instructions	
7	Requirement/recommendation for power supply	

	controlled stabilizing has to be given	
8	Lifting instruction mentioned in packing list	
9	Detailed invoice and packing list of all items and devices and detailed prospect of machine and all other accessories enclosed in respective boxes	
10	Product must be ISO/CE Certified	
<b>F</b>	<b>INSTALLATION AND COMMISSIONING</b>	
1	The complete installation and commissioning must be carried out by the supplier at the project (at the final destination/premises). Certificate of acceptance is to be signed by customer and supplier.	Confirm
2	All logistic, Grouting & any other Civil work has to done by Vendor (If any)	Confirm
3	All electrical Items should be Tropicalized	Confirm
<b>G</b>	<b>TRAINING AT INSTALLATION PLACE</b>	
1	Operator training	1 day
2	Maintenance course mechanical, electrical and electronics (All Inclusive)	1 day

**DELIVERY PERIOD INCLUDING INSTALLATION & COMMISSIONING:**

The delivery period including installation & commissioning of Infra Red Oven at the destination mentioned in Para 1 on page no. 02 of the tender documents will be 3 months from the date of placement of Purchase Order/work contract.

**WARRANTY:**

Infra Red Oven inclusive of all system/accessories should be covered under warranty for a period of 24 months (min.) from the date of commissioning.

**NOTE:**

1. Oven shall be supplied with 3 sets of comprehensive operation and maintenance manual.
2. Breakdown calls to be attended within 48 hrs.
3. Supply to be done on Turnkey Basis. ALIMCO shall provide electrical supply point near to the place of installation.
4. Total power consumption (in KW) to be provided by the tenderer.