



NATIONAL INNOVATION FOUNDATION - INDIA
(Autonomous Body of Department of Science & Technology, Govt. of India)

TENDER DOCUMENT

FOR

**SUPPLYING OF MACHINES/ EQUIPMENTS FOR
FAB LAB / WORKSHOP**

Tender Fee Rs. 500/-

Date of Tender Issue	: 08/03/2019 at 12:00 hrs
Last date of Tender submission	: 25/03/2019 at 10:30 hrs
Opening of Technical Bids	: 25/03/2019 at 11:00 hrs
Opening of Financial Bids	: 27/03/2019 at 14:00 hrs

National Innovation Foundation-India is an Autonomous Body of the Department of Science and Technology, Govt. of India providing institutional support to grassroots innovators and outstanding traditional knowledge holders.

NIF invites sealed tender for supplying of machines and equipment's for workshop. The sealed bidding documents should be delivered in the Administration Section of NIF on or before the stipulated date and time. The technical bid and the financial bid must be sealed in separate envelopes super-scribing "**Technical Bid**" and "**Financial Bid**" and both these two envelopes must be placed in a third envelope super-scribing "**Tender for Supplying of Machines and Equipment's for Workshop**". This third envelope should be **sealed (glued along with tapped). Stapled or open tender will be forfeited.** It should be delivered to: "The Director / Chief Innovation Officer, National Innovation Foundation – India, Grambharti, Amrapur, Gandhinagar – Mahudi Road, Gandhinagar – 382650." Latest by 10.30 AM on 25th March 2019.

The technical bids will be opened on 25th March 2019 at 11:00 AM, at address given above. The financial bids of successful bidders will be opened on 27th March 2019 at 2:00 PM at NIF Grambharti office. The terms and conditions are as follows:

Any queries related to this tender may be addressed only through email to pc@nifindia.org.

Terms & Conditions:

1. The tenderer/bidder may be a proprietary firm, Partnership firm, Limited Company, Corporate body legally constituted engaged in manufacturing /marketing of production machines /equipment's (copy of registration of firm to be attached).
2. The Bidder must have a **minimum financial annual turnover** of Rs. 25 lakhs in each of past 3 financial years and no loss in P&L account shall be there in those years. Audited Financial documents of Balance Sheets & P&L account certified by CA shall be provided by bidder.
3. Applicant should not have been blacklisted by the Depts./Ministries of the Govt. of India/State Govt. /PSUs (**A declaration has to be submitted**).
4. Interested bidders who wish to participate in the tender shall pay Rs. 500/- (Rupees Five Hundred only) as Tender Fee in the form of Demand Draft (valid for 90 days) drawn in favour of '**National Innovation Foundation-India**' payable at Ahmedabad from any Nationalized /Scheduled bank.
5. The bidder shall furnish, as part of the bid, an interest free EARNEST MONEY DEPOSIT (EMD) of amount mentioned in annexure 2 for each machine /equipment separately in the form of Demand draft (valid for 90 days) drawn in favour of '**National Innovation Foundation-India**' payable at Ahmedabad from any Nationalized /scheduled bank.
6. Tender Fees and Earnest Money Deposit (EMD) in the form of Demand Draft only shall be placed in a sealed Envelope 1 super scribed as "Tender Fees and Earnest Money" with name of machine (s).

7. The tenderer /bidder should submit duly filled check list of technical bid (annexure 1) along with supporting documents and catalogues of machines quoted in the envelope of technical bid.
8. The technical and financial bids should be quoted separately in different sealed envelopes for each machine. Both envelopes must be kept in an envelope which should be superscripted as "Tender for supply of (Name of machine)".
9. One supplier may quote for more than one machine/software but he should submit technical and financial bids and the EMD separately for each machine/software. All the sealed envelopes may be submitted in a single envelope with the tender fee (Rs 500/- per bidder).
10. Sealed Bid may be submitted to the address given above.
11. A copy of the authorization letter/power of attorney/board resolution for the purposes of signing and submitting the present tender documents shall be attached with the tender documents.
12. The Bidder's name stated on the proposal shall be the exact legal name of the firm.
13. Erasures or other changes in the Bid Documents shall be initialed by the person signing the Bid.
14. NIF shall open the bids Technical and Financial bids on the scheduled dates of which the Bidder shall take note and the Bidder, either himself or through an authorized representative shall remain present at such opening. In the event any authorized representative of a Bidder is sent to such opening then such person shall be required to carry an authorization letter for the same.
15. It is hereby clarified that the absence of any Bidder or his authorized representative at such opening shall not affect the legality of such opening and NIF shall be entitled to continue with such opening of bids even in the absence of the Bidders or any of them, and no claim or objection on this ground shall be entertained.
16. Any Tender without EMD and Tender fee will be treated as non-responsive and shall be rejected at the outset itself.
17. The EMD of the unsuccessful bidders will be discharged/returned at the earliest after completion of the tender process. The successful bidder's EMD will be discharged upon the bidder's acceptance of the Letter of Intent/purchase order satisfactorily. The EMD may be forfeited:
 - a. If the bidder withdraws his/her bid during the period of bid validity specified by the bidder in the Bid form;
 - b. In the case of successful bidder, if the bidder fails to sign the contract or fails; or Fails or refuses to honour his/her own quoted price for any of the items or part thereof.
 - c. In both the above cases bidder will not be eligible to participate in the tender for one year from the date of issue of Letter of intent.
18. The financial bids of those bidders will be considered who qualify under technical bid. The financial bids of successful bidders will be opened on 27th March 2019 at 2:00 PM, at address given above.
19. The prices quoted must be inclusive of all taxes, cost of software, training /machine demonstration, loading & unloading, transport insurance

- (wherever applicable) and transportation charges to deliver the equipment/machine at address given above. The applicable rates of GST and amount should be clearly mentioned in the financial bids.
20. The list of machines is given in Annexure 2, and detailed specification of machines is mentioned in annexure 3.
 21. Submitted quotations should be valid for at least 90 days.
 22. The vendor should supply machines within 45 days of placing the purchase order.
 23. Vendor has to set up and demonstrate and extend adequate hands on training of the machine/equipment/software, without doing that, the delivery would not be deemed to be complete.
 24. Brand new well functional machines with finest finishing must be supplied, the delivery of machines not fulfilling the same, shall not be accepted.
 25. In case the quotation is being submitted by authorized agent of the principal manufacturing company, the authorized sales agency ship certificate from the principal should be furnished along with the quotation. Quotations without this authorization certificate will be rejected.
 26. The cost/bid should include comprehensive warranty for at least 2 years and one year free service.
 27. The cost should include cost of softwares/programmes needed to make the machine/equipment fully functional. In case third party software has to be used, the license of software in the name of National Innovation Foundation (NIF) must be provided with validity not less than three years.
 28. Special discount/rebate wherever admissible keeping in view that items are being procured for educational purpose in respect of Public Institution of national importance may please be indicated.
 29. Vendors should attach the relevant brochure/leaflet for the models/options quoted.
 30. Vendors should attach users list (atleast five, recent users, wherever possible) with their contact details including address, email id, phone number and copy of the purchase orders.
 31. Necessary certificate should be enclosed by the vendor in case of proprietary nature of the quoted items.
 32. Incomplete and conditional submitted tenders would be summarily rejected.
 33. Late/delayed tenders received at the venue mentioned above due to any reason, whatsoever, will not be accepted under any circumstances.
 34. The Bidder shall bear all costs associated with the preparation and submission of its Bid. NIF shall, in no case, be responsible or liable for these costs, regardless of the conduct or the outcome of the Bidding process.
 35. The tenderer should sign (not initials) at each page of the technical and financial bid documents and all its annexures. No page should be removed/detached from the tender document.
 36. In case two or more agencies are found to have quoted the same rates, the competent authority, NIF shall decide about the agency to which the offer shall be granted based on the past credentials/ report on the past performance of the firm, and length of experience etc. The decision of the competent

authority, NIF shall be final and binding, and no communication in this regard will be entertained.

37. Payment of 80% will be released after delivery of machines/ equipment in good condition, successful commissioning, installation, testing of machines or equipment.
38. Remaining 20% payment will be released after satisfying all the conditions as per the tender terms and condition, satisfactory functioning of the machines/equipment supplied and after furnishing of Guarantee/ Warranty documents and performance security.
39. The successful bidder needs to submit performance security (5% of the final price /contract value of the machine) in the form of Demand Draft/Direct Transfer (NEFT/RTGS) / Bank Guarantee from a Nationalized/Scheduled bank which should be valid for a period of 90 days beyond the completion of all contractual obligations of the supplier including warranty period.
40. The Performance security shall be forfeited and credited to the Institute in the event of breach of contractual obligation by the supplier, in terms of relevant contract.
41. NIF reserve the rights to cancel the tender process, without giving any reasons.
42. The conflicts or disputes that may arise in relation to the subject, content, interpretation, implementation and enforcement of this agreement will be solved, firstly, by the Monitoring Committee setup jointly for good governance and then, by equity arbitration. In the event, efforts by Monitoring Committee and an equity arbitration attempt fails, then the legal jurisdiction to be approached shall be within the jurisdictions of Ahmedabad/Gandhinagar only.

Annexure 1

Format for technical bid of the tender (NIF/2019/ADM/003)

Tender submitted for supply of(name of machine /equipment/software)

Sl. No.	Description of requirement	Enclosed	Enclosure No.
1.	Whether the firm is registered with proprietary firm, Partnership firm, Limited Company, Corporate body legally constituted engaged in manufacturing /marketing of production machines /equipment	Yes/No	
2.	Declaration by the bidder that he /she has not been blacklisted by the Department /Ministries of the Govt. of India/State Govt./PSUs	Yes/No	
3.	Copies of Balance Sheet and Profit & Loss for last 3 years duly certified by CA	Yes/No	
4.	Copy of Registration Certificate of the firm	Yes/No	
5.	Copy of PAN/TAN/GST issued by Income Tax Dept.	Yes/No	
6.	Partnership deed, if applicable	Yes/No	
7.	Details of other organizations where similar machines/software's have been supplied (Copy of atleast 5 recent work orders to be attached)	Yes/No	
8.	Demand draft of Rs...../-as tender fee enclosed in separate envelope along with Technical Bid	Yes/No	
9.	Demand draft of Rs...../-as EMD enclosed in separate envelope along with Technical Bid	Yes/No	
10.	Technical specification of the machine/software	Yes /No	
11.	Financial Bid proforma/quotation completed and sealed in a separate envelope	Yes/No	

Declaration of the Tenderer:-

This is to certify that I/We before signing this tender have read and fully understood all the terms and conditions contained herein and undertake myself/ourselves to abide by them.

(Signature of Tenderer with seal) Name:

Place:

Seal :

Date:

Office Address:

List of Machines

S no	Machine name	Quantity	Estimated Price, Rs	EMD, Rs
1)	Plant for powder coating	1	25,00,000	50,000
2)	Plant for electroless nickel and nickel- chrome plating	1	25,00,000	50,000
3)	Pressure die casting	1	10,00,000	20,000
4)	Injection moulding machine (120 ton)	1	18,00,000	36,000
5)	Arm type- electric tapping machine	1	4,00,000	8,000
6)	Laser welding machine	1	8,00,000	16,000
7)	Gear hobbing machine	1	10,00,000	20,000
8)	Hydraulic thread rolling machine	1	13,00,000	26,000
9)	3D Printer type 1	1	3,50,000	7,000
10)	3D Printer type 2	3	2,50,000	5,000
11)	3D Printer type 3	2	1,50,000	3,000
12)	Desktop vacuum forming machine	2	1,50,000	3,000
	TOTAL		1,22,00,000	2,44,000

Details of machines along with specifications

1) PLANT FOR POWDER COATING

Particulars	Specification
Technology	Plant for powder coating, suitable for Mild Steel/ Stainless Steel, Aluminum, Zinc alloys, Cast iron, etc. The plant should include all sub systems / equipment /accessories required for fulfilling the job, desired specification of major subsystems is given below
Pre- Treatment Plant	Dip chemical treatment, Iron exchange based DM water treatment plant, Degreasing Plant chemical container sized- suitability fit according to max work sized to be coated
Max. work size to be coated	Length -1500 mm Width – 500 mm Height -1200 mm
Load carrying Capacity	20 -50 kg
No of hangers	Minimum 8
Conveyor type	Overhead conveyor – (I-Beam conveyors)
Conveyor pitch Length	Minimum 800 mm
Conveyor drive	Variable speed power motor
Powder spraying Guns	Automatic guns on reciprocators
Powder coating Booth	According to maximum size to be coated (as mentioned above)
Curing oven Size	Tunnel Type Curing Oven, Electric Heaters With Air Circulation (According Max Sized to be Coated)
Control Panel	Supervisory Controls And Data Acquisition based control Panels (SCADA) Based Control Panel
Accessories	All standard accessories, electrical and electronic systems, Required number of gas cylinders, gas pipes of required length, regulators, manifold, pressure gauges and other necessary accessories needed to perform the powder coating of job size given above to be provided by the supplier. The specification of the manor accessories needs to be mentioned in the technical bid clearly.

**2) PLANT FOR ELECTROLESS NICKEL AND NICKEL -CHROMIUM
PLATING**

Particulars	Specification
Technology	Plant for electro less nickel / nickel chrome plating /coating, suitable for coating on parts of various sizes.
Capacity of tank	Suitable size of tank to take care of jobs of various sizes up to 1500 mm in length, 500 mm width and 1000 mm height
Plating thickness required	Minimum 10 micron
Material of parts to be coated	Aluminum, Mild Steels, Hardened Steels, Stainless Steels, etc.
Finishing	Over the significant surface, there shall be no clearly visible plating defects such as blisters, pits, roughness, cracks, unplated areas, stains or Discoloration.
Accessories	The plant should include all sub systems /equipment /accessories required for fulfilling the job. The bidder should quote the price including cost of all essential accessories to make the plant fully functional

3) Pressure die casting machine for aluminum alloys

Particulars	Specification
I. Magnetic stirrer	Water cooled Magnetic stirrer including cylindrical die
Die	Diameter- 60mm, Height- 400 mm, Heavy duty stainless steel die should withstand load up to 150 Ton
Power	3 phase magnetic Horizontal magnetic coils (×3 pairs) 400/440 V/3 P/12 kW fitted in E vertical slots, separated and insulated, water cooled
Current range	0 - 500 A. (Current controller)
Frequency range	0 – 200 Hz (Frequency controller)
Temperature measurement	Temperature measurement in between die-coil and inside the melt using mineral insulated, ungrounded and Inconel sheathed k-type thermocouple
Diameter of the center cylindrical mold space	200 mm
Magnetic Stirrer coil cooling system	Water cooling facility for the magnetic coils with provision of pumping water from small tank with motor. System should be enclosed in water proof steel chamber and heat proofed to the coil
II. Degassifier unit	Stainless steel 310 grade blade and rod mounted on the trolley with UP/DOWN movement
Rotor Speed	100—1500 RPM (vibration less) ✓ Electronic speed regulator for stirrer should be provide along with digital indication and control.
Degassing rotors	1. Removable BSP steel porous plug 2. Degassing tube open ended BSP steel both should withstand temperature up to 1600 degree Celsius
Degassing	Pressure gauges, mixing unit and controls should be given for the supply of gas
Others	The entire system should be movable on a trolley
III. Furnace	Fully automatic stir casting facility with press casting
Pouring	Automatic bottom Pouring facility with proper control switches
Temperature	Up to 1400 degree Celsius
Stirrer rpm with display	3000 rpm max. & Electronic Display with up and down

Material to be melted	Aluminum alloys
Mixing	Direct injection type slow mixing with the melt
	Built in control panel, arrangement should be made, PID temperature indicator, RPM indicators
Power	400/440 V/3 P/12 KW
IV. <u>Pressure Casting unit</u>	Vertical Squeeze Casting Unit Machine
Construction	2 Pillar Construction Ejection Force 0-50 Tons <ul style="list-style-type: none"> • Main Platen Size, 50×250mm • Day Light Opening 400 mm Max. 200 mm Min. • Main Stroke 200 mm • Ejection Stroke 200 mm • Moulding Form Area: 120 mm×120mm×250mm
Capacity	Up to 150 Ton
Die casting setup (mild steel)	40 mm x diameter 300mm
Die heater	0 to 500 degree Celsius, Built in control panel, arrangement should be made in the main furnace pane, The pressure should be indicated and control through set point controller.
<u>Other accessories /consumables needed along with equipment: Thermocouples- K, J Type (5 Nos). Multimeter with temperature probe 1No.</u>	

4) Injection moulding machine (120 ton)

Particular	Specification
Technology	Horizontal, fully automatic screw type double cylinder injection moulding machine
Target material	Thermosetting resins including Acrylonitrile-Butadiene- Styrene (ABS), Nylon PA, Polycarbonate PC, Polypropylene, Polystyrene, GPPS, etc.
Drive	Servo motor driven
Controller	PLC - Mirle (Lubi)/ Streamline
Feeding type	Horizontal
Shot weight	20 - 250 g
Screw diameter	Between 35-48 mm
L/D Ratio	20:1
Screw speed	200 rpm
Heating capacity	More than 8 kW
Mold height	150-550 mm
Ejector stroke	Up to 140 mm
Ejector tonnage	50
Hydraulic pump	Servo motor (preferably Lubi/KEB/Gefran)
No. of ejector	Minimum 7
Ejector force	Adjustable up to 70 ton
Point toggle	Five
Screw Barrel	Colour mix with gas nitriding
Sensors	Oil temperature sensor, Screw RPM sensor
Hand safety	PLC alarm, hydraulic dump valve, electric switch
Motorized mold setting	Automatic
Lubrication	Auto with PLC controlled
Accessories	All standard accessories including Hopper dryer, vacuum loader, FRP water cooler, suitable size water pump set of standard make, PLC, power supply, etc. required for making machine functional to be included. The machine should have provision of adjustment of injection volume according to job size.

5) ARM TYPE – ELECTRIC TAPPING MACHINE

Particulars	Specification
Capacity (mm)	M3-M42
Working Radius (mm)	Minimum 1200
Chuck size (mm)	48
Motor type	Servo
Power (kW)	Up to 1.8
Speed (rpm)	0 - 100
Torque(Nm)	Up to 650
Depth adjustment	Automatic
Working table	900* 600* 700 (mm*mm*mm)
Accessories	Machine should be compiled with required accessories to make it fully functional
Others	Suitable for materials including high grade steel. Structure should be made up of non-corrosive material with finest finishing.

6) LASER WELDING

Particulars	Specification
Laser Power	300W
Laser Source	Pulses Nd:YAG
Output Optical Path	Double Path (standard+fiber)
Laser Wavelength	1064nm
Single Pulse Energy	100J
Working Table Scale	750mm x 1000mm
XYZ Stroke	X=700mm, Y=200mm, Z=200mm (manual)
Power Supply	220V±10%/50Hz
Power Consumption	9kW
Beam Diameter	0.1~3.0mm
Pules Width	<15ms
Pulse Frequency	1~50Hz
Focal Length	150mm / 200mm
Cooling System	Water Cooling
Observation System	CCD Camera

7) GEAR HOBGING MACHINE

Particulars	Specifications
Module	5
Maximum Diameter of Gear with support	Preferably 500 mm
Minimum Diameter of Gear	10 mm
Minimum number of Teeth	Preferably 6
Maximum Helical Gear cutting	45 Degree
Diameter of Work table	More than 300 mm
Maximum Diameter of Hob	110mm
Hob Arbour	32 mm
Main Drive Motor	Up to 3 hp
Rapid motor	1.5 hp
Coolant Pump	From reputed brand preferably
Suitability	Machine should make precision Spur, Helical Worm Gears, Splines, Sprockets, ratchet Wheels & any other form that can be hobbled. Suitable for material including MS, SS, etc.
Accessories	All standard accessories including belt /pulley for power transmission, electric switch /starter, electric motors, etc. required for making machine functional to be included
Others	Machine should be suitable for materials including MS, Aluminum, SS, GI, Brass, etc. Structure should be made up of non- corrosive material with finest finishing.

8) HYDRAULIC THREAD ROLLING MACHINE

No of machines required	One
<p>The hydraulic thread rolling machine (cold rolled) shall be complete with all electrical, hydraulic and necessary tools/ components: The machine will be supplied with following necessary tools and thread rolls, required for rolling different thread sizes:</p> <ol style="list-style-type: none"> 1) Thread rolls for M-20 and thread rolls for M-22- one set each 2) Work Steady for M-20 and M-22- one No. each 3) Extra long extension bracket with ground support – 1No. 4) Holding fixtures- 3No. 5) Hydraulic power pack 6) Coolant unit 7) Main electric panel- Swivel type 8) Two Nos. of timers ranging from 0.3 seconds to 3 hours for auto cycle operation 	
<p>The machine shall be used to manufacture Roof/ Rock bolts from M.S. Fe-650 Grade (having Tensile Strength of 650 +/- 10Mpa) TMT Bar having circular cross section of 20/20 mm diameter with ribs on circumferential region. However, the machine shall be designed to roll thread at least up to 30 mm diameter TMT Bar.</p> <p>However, pre- turning of TMT Bars to suit blank diameters i.e. 18.35 mm for M20 rolls and 20.35 for M22 to be done.</p>	
<p>The length of the roof/ rock bolts shall be up to 2.5m. The thread on the roof bolt shall be cold rolled and the minimum thread of the thread shall be up to 200 mm and the tolerance of 8g. The thread made by the subject Thread Rolling Machine shall be suitable for Nut of hexagonal shape conform to IS: 4218 having thickness not less than 30 mm.</p>	
<p>The offered machine shall be robust in construction and the rolling force shall be suitable to make the rolling as per above requirement.</p> <p>The Rolling slides move on robust and hardened 'L' Guides made with special Alloy Steel for wear and tear and absorbs vibration while rolling.</p>	
<p>The following additional items will be supplied along with each machine:</p> <ol style="list-style-type: none"> 1) Thread rolls 1 pair for M-20 2) Thread rolls 1 pair for M-22. 3) Work rest for M- 20 – 1No. 	

4) Work rest for M- 22- 1 No.	
5) Cylinder oil seal kit – 1 set	
The Electric motor for thread rolls/ Hydraulic pump/ coolant pump shall be suitable for operation in 415V, 3 phase, 50 Hz supply and shall conform to IS: 325 or other Indian Standards, latest amendments in any.	
The thread rolling machine should comply to the following parameters:	
Max. pitch can be rolled	10mm
Max. diameter can be rolled in feed	80 mm
Max. diameter can be rolled in through feed	50 mm
Max. rolling length in feed	200 mm
Max. rolling length in through feed	Unlimited
Outer diameter Of thread rolls	140 to 220 mm
Spindle diameter	69.85 mm
Width of thread rolls in feed	200 mm (however, roll width shall be as per thread length on component)
Width of thread rolls through feed	90 mm
Max. rolling force of machine	24 Tonnes
Electrical motor for thread rolls	12.5 HP
Electrical motor for hydraulic pump	5 HP
Electrical motor for coolant pump	0.25 Hp
First fill of hydraulic oil, coolant should be supplied by you along with the machine.	

9) 3D PRINTER TYPE 1

Particulars	Unit	Specification
Build volume:		
i. Length	mm	120
ii. Width	mm	67.5
iii. Height	mm	150
Pixel size:		
i. X	μM	62.5
ii. Y	μM	62.5
Resolution	μM	25/50
File type		STL
Power		
i. Voltage	V	100- 240
ii. Frequency	Hz	50- 60
iii. Current	A	1
Connectivity	USB Stick/ USB Cable/ Wi-Fi	
Enclosure	Closed type	
Make	Flashforge	
Model	Hunter	
Quantity	1	

10) 3D PRINTER TYPE 2

Particulars	Unit	Specification
Build Volume:		
i. Length	mm	227
ii. Width	mm	148
iii. Height	mm	150
Layer resolution	μM	100~ 500
Position precision		
i. XY	μM	11
ii. Z	μM	2.5
File type		STL
AC Input		
i. Voltage	V	100 -240
ii. Frequency	Hz	50 -60 Hz
iii. Current	A	~2
iv. Wattage	W	350
Connectivity	Wi-fi, USB Cable, SD Card	
Enclosure	Closed type	
Make	Flashforge	
Model	Creator Pro	
Quantity	3	

11) 3D Printer type 3

Particulars	Unit	Specification
Build Volume:		
iv. Length	mm	230
v. Width	mm	150
vi. Height	mm	140
Layer resolution	μM	100~ 500
Position precision		
iii. XY	μM	11
iv. Z	μM	2.5
File type		STL
AC Input		
v. Voltage	V	100 -240
vi. Frequency	Hz	50 -60 Hz
vii. Current	A	~2
viii. Wattage	W	350
Connectivity	Wi-fi, USB Cable, SD Card	
Enclosure	Closed type	
Make	Flashforge	
Model	Dreamer 3D Printer	
Quantity	2	

12) DESKTOP VACUUM FORMING MACHINE

Particulars	Unit	Specification
Sheet size:		
i. Length	mm	330
ii. Width	mm	250
Maximum sheet thickness	mm	03
Minimum sheet thickness	mm	0.2
Forming area		
i. Length	mm	280
ii. Width	mm	200
Maximum depth draw	mm	200
AC Input		
i. Voltage	V	100- 240
ii. Frequency	Hz	50 – 60
iii. Wattage	kW	132
Noise Level	dB	65
Heater Temperature	°C	Up to 280
Make	Vaquform	
Model	DT2: January 2019 Batch	
Quantity	2	