

Indian Institute of Technology, Kanpur
National Wind Tunnel Facility

Enquiry No. NWTF/IITK/2016-17/03

Date: June 14, 2016

Closing Date: June 27, 2016

Sealed Quotations are invited on the following address from the reputed Vendors/Fabricators for the fabrication of scale down model of airship model. To get details on the airship model and for any other queries, please contact to **Dr. Chaturi Singh** at chaturi@iitk.ac.in

Prospective Vendors/fabricators are requested to send their quotations in a sealed envelope within closing date. The quotations should contain the detailed model fabrication methodology and include the details of the machine bed size, specification to be followed for model fabrication.

Terms and Conditions

1. Wind Tunnel Model has to be fabricated and assembled in all respects with required inspections.
2. The schedule to be followed from the date of receipt of PO must be clearly defined. NWTF reserves the right to negotiate the proposed schedule.
3. Acceptable Tolerances:

Overall

- a. Model length: +/- 0.3mm
- b. Profile of model: +/-0.1 mm
- c. Fins and Flaps angle maintenance: +/- 0.1°

Note: Model Part wise Acceptable Tolerance detail is listed in the attached table at page 2 of this document.

4. Surface finish has to meet the following requirements:
 - a. All Aluminum components to be anodized.
 - b. Surface roughness of metallic parts: 3 to 5 microns
5. Model will be accepted only after demonstration of its dimensional accuracy and overall integrity as per the specifications.
6. A report has to be submitted on the dimensional accuracy and overall integrity of the fabricated model based on inspection.
7. Inspection is to be in two stages.
 - a) Inspection of pattern for Fiber reinforced plastic parts at fabrication site.
 - b) Inspection of the complete shell model after integration at supplier's site forms the first stage.

The model received by NWTF at the test site will also need to be assembled, inspected and certified by the vendor.

8. Validity of the quotation should be at least 30 days.
9. 50% payment will be released after completion of model fabrication and submission of the model and inspection plan documents. The remaining 50% will be released after assembly of model at IIT and acceptance of the complete model and preliminary test runs are completed in the NWTF tunnel.

The Coordinator,
National Wind Tunnel Facility (NWTF)
Indian Institute of Technology Kanpur
Kanpur, UP- 208016
Phone # +91- 512-2597226
Email – chaturi@iitk.ac.in

Table: Model Part wise Acceptable Tolerances

S.No.	Name of Part	Material	QTY	Size of model part	Acceptable tolerance
1	Nose Part/First Part	Woven fiber Reinforced Plastic or Nylon	1	Approx length=750 mm max Dia = 375mm	Length wise +/-0.3 mm
2	Middle part/second part	Woven fiber Reinforced Plastic or Nylon	1	Approx length= 300 mm max Dia = 375mm	
3	Tail part/Third Part	Woven fiber Reinforced Plastic or Nylon	1	length=430 mm max Dia = 375mm	
4	Balance Holding Assembly	Aluminum Alloy 6061	1	length=430 mm max Dia = 375mm	Length wise +/-0.3 mm
5	Fins for + configuration	Rapid Prototyping/CNC	4	length=131 mm breadth= 63 mm width=7 mm	Length wise +/-0.3 mm +/-0.2 mm
6	Fins for y configuration	Rapid Prototyping/CNC	3	length=160 mm breadth= 150mm width=36 mm	
7	Flaps for + configuration	Rapid Prototyping/CNC	4	length=133 mm breadth= 192 mm width=36 mm	+/-0.2 mm
8	Flaps for y configuration	Rapid Prototyping/CNC	3	length=144 mm breadth= 72mm width=9mm	+/-0.2 mm
9	Front adapter for balance	Aluminum Alloy 6061	1	length=76 mm Dia= 50mm	+/-0.5 mm
10	Rear Adapter for balance	Aluminum Alloy 6061	1	length=176 mm Dia= 50mm	+/-0.5 mm
11	Motor holding Rings for + Fin configuration	Aluminum Alloy 6061	1 Set	length=77 mm Dia= 159mm	+/-0.3 mm
12	Motor holding Rings for Y Fin configuration	Aluminum Alloy 6061	1 Set	length=77 mm Dia= 159mm	+/-0.3 mm
13	Motor Fixing adapter	Aluminum Alloy 6061	7	length=56 mm breadth= 50 mm	+/-0.5 mm
14	Torque sensor top Adapter	Aluminum Alloy 6061	7	length=25mm Dia= 20mm	+/-0.2mm
15	Torque sensor rear Adapter	Aluminum Alloy 6061	7	length=25 mm Dia= 20 mm	+/-0.2 mm
16	Sting	MS	1	length=790 mm Dia= 30 mm	+/-0.5 mm