Sanjay Ghodawat University, Kolhapur

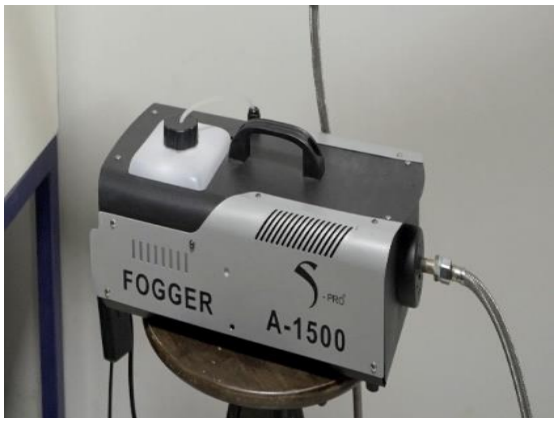
Established as a State Private University under Govt. of Maharashtra Act no. XL dated 3rd May 2017

Empowering Lives Globally !

DEPARTMENT OF AEROSPACE ENGINEERING

AERODYNAMICS LAB

S.No	Equipment Name	Specifications/Notes	Photograph
1	**Low Speed Wind Tunnel** **Application:** Used for aerodynamic testing, flow visualization, and lift/drag measurement	• Type: Open type Wind Tunnel. • Test Section: 300 mm x 300 mm x 1000 mm. long with two Perspex windows. • Blower Fan: 3 /10 blades /nylon fan. • Motor: 7.5 HP D.C shunt motor, 1500 rpm. • Speed Controller: 3 phase, thyristor controller to give smooth Speed control. • Air Velocity: In test section-1 to 30 m/sec. • Duct: Manufactured out of ms sheet. • Length of Tunnel: 4/5 meter.	
2	**Wind tunnel specimen** **Purpose:** Designed to analyze pressure distribution over an airfoil surface in an open-type wind tunnel.	• **Airfoil Type:** Approximate representation of a cambered airfoil • **Chord Length: 200 mm** (Optimal for pressure variation analysis) • **Span (Wing Width): 250 mm** (Fits well within the 300 mm test section width) • **Thickness: 15 mm – 20 mm** (Maintaining structural integrity) • **Camber:** Moderate curvature to study aerodynamic effects	
3	**Wind tunnel specimen** **Purpose:** Designed for aerodynamic force and pressure measurement in a wind tunnel.	**Wing** • **Chord Length: ~100 mm - 150 mm** (estimated) • **Span: ~100 mm** • **Thickness: ~30-50 mm** • **Leading Edge:** Blunt or rounded • **Trailing Edge:** Slightly tapered **Cylindrical Specimen** • **Diameter: ~50-70 mm** • **Length: ~150 mm**	

		• **Ends:** Threaded for mounting **Spherical Specimen** • **Diameter: ~100 mm** • **Mounting:** Threaded rods at both ends for attachment in the wind tunnel	
4	**Smoke Generator (Fogger A-1500)** **Purpose:** Used for flow visualization in wind tunnel experiments	• **Power:** 1500 W (estimated based on model number) • **Heating Element:** Integrated heater for vaporizing fog fluid • **Fluid Capacity:** Typically 1-2 liters, depending on the manufacturer • **Smoke Output:** High-density fog for clear flow visualization • **Control:** Manual and remote operation (potentially DMX-controlled) • Adjustable output intensity	
5	**Water Flow Channel** **Purpose:** A **water flow channel** (or water tunnel) is used in fluid dynamics experiments to study	• **Type:** closed recirculating water tunnel • **Test Section:** Rectangular cross-section with transparent side walls for visualization • **Flow Velocity Range:** Typically 0.1 to 1.5 m/s, adjustable with a pump system • **Length of Channel:** Varies from 2 to 10 meters based on experimental needs • **Flow Straighteners:** Honeycomb grids to ensure laminar flow • **Pump System:** High-precision motor-driven pump to regulate water speed • **Dye Injection System:** For flow visualization studies **Measurement Instruments:** • Pitot tubes or velocity sensors for flow speed analysis	