



# SUBSONIC WIND TUNNEL (300 mm x 300 mm)



\*PICTURE MAY VARY

#### **OVERVIEW**

The Instrumax Computer-Controlled Open-Circuit Subsonic Wind Tunnel provides a superior platform for aerodynamic research and educational demonstrations. Featuring a spacious 300 mm x 300 mm working section, it allows detailed visualization and precise experiments at practical Reynolds numbers.

#### **KEY FEATURES**

- Operates At Meaningful Reynolds Numbers
- Safe, Open-Circuit Suction Airflow Design
- Controlled Airflow Management for Stable Requirement
- Six-Component Sting Balance to Facilitate Model Performance
- Model Angle Feedback Display
- 40-Way Pressure Measurement Capability
- Pitot Tube for Real-Time Velocity Measurement
- Projector And Electronic Whiteboard Compatibility
- Wind Tunnel Can Be Controlled Through Wi-Fi Based Device
- Controls And Instrumentations Mount on Stand-Alone



Visit Our Website www.instrumax.com.au

## **WORKING SECTION**

- Square cross-section (300 mm x 300 mm)
- Transparent acrylic panel (hinged/removable)
- Robust metal support frame
- Integrated model holders
- Embedded Pitot tube
- Wake Analysis assembly

# INSTRUMENTATION

- Computer-Controlled Data Acquisition System with intuitive software
- 20-Inclined multi-tube manometer panels
- Model positioning system
- NACA 2412 profile
- Cylinder Resistance Model
- Drag Sphere Model with force assembly
- Smoke generator for airflow visualization





# **OPTIONAL ACCESSORIES**

- Wake Survey assembly for wake studies
- Force and Moment Internal Sting Balance
- Force and Moment External Pyramid Balance
- Drag Model of Hemisphere
- Circular Plate Drag Model
- Square Plate Drag Model
- Streamlined Shape Drag Model
- Drag Model of Hemisphere Concave
- Wing Model with NACA 0015 Profile
- Wing Model with NACA 54118 Profile
- Dimpled Sphere Drag Model
- Pressure Distribution in a Wing Model with NACA 0015 Profile
- Pressure Distribution in a Wing Model with NACA 54118 Profile
- Bernoulli Apparatus Mode
- Adjustable Pitot Tube
- Wing Models
- NACA series profile (As per requirement)
- Car/ Lorry Model
- Aircraft/ Jet Model
- Boundary Layer measurement accessory
- Additional 20-Manometer Tubes Assembly



Visit Our Website www.instrumax.com.au

# DATA ACQUISITION SYSTEM

- Computer-Controlled Real-Time Data Capture, Monitor and Visualization
- Automated/Manual Recording Modes
- Digital And Analogue Real-Time Displays
- Comprehensive Data Export and Analytical Tools

## SOFTWARE FEATURES

- Real-Time Data Acquisition: Immediate capture and display of sensor data for instant analysis.
- Graphing Tools: Real-time plotting of multiple data sets with customizable axes for enhanced visual interpretation.
- User-Friendly Interface: Intuitive graphical user interface (GUI) ensuring ease of operation.
- Data Logging and Export: Efficient logging of experimental data with options to export in CSV and Excel formats.
- IoT Integration(optional): Cloud-based connectivity allowing remote monitoring, visualization, and data analysis
- Customizable data presentations for tailored reporting. (optional)



Visit Our Website www.instrumax.com.au

# **EXPERIMENTAL APPLICATIONS**

- Flow analysis around bluff and streamlined bodies
- Boundary layer and wake studies

Visit Our Website

- Pressure distribution on cylinders and aerofoils
- Lift, drag, and moment measurements and analyses
- Comprehensive flow visualization and instructional demonstrations

Additional Information: The Instrumax wind tunnel has been engineered to enhance teaching and research effectiveness. Its computer-controlled open-circuit suction design guarantees user safety, precision, and operational convenience. Comprehensive instrumentation, coupled with robust software solutions, facilitates accurate data acquisition and efficient analysis, making this system ideal for both detailed research projects and interactive educational demonstrations.

