Business Jet, Commercial and Regional Aircraft
Detailed testing capabilities

Model type	Model rigging	Wind tunnel	Typical test program	Test objective	Mach number range
Full model. Wing span: 3 to 4 m.	Straight sting Z sting Fin sting Twin sting	S1MA	α sweep polars (range = 45°). β sweep polars (range = 20°).	• Pressure distribution. • Wake survey. • Acoustic measurements. • Aircraft control qualities. • Accurate drag measurements. • Buffet onset. • Structural loading. • Sting near field effect. • Additional drag induced by: - propellers, - flow-through nacelles.	Up to Mach 0,95
Half model Half span: 1 to 4.5 m	Bottom wall mounted.	S1MA	α sweep polars. polars with all parameters fixed.	Laminar flow control. Additional drag induced by: - propellers, - turbines (TPS), - flow-through nacelles. Basic research (wake, BL,…).	Up to Mach 0,95
Isolated air intake testing.	With / without ejector. Mass flow control and measurements units. External rake.	S1MA	α sweep polars. β sweep polars. Mass flow variations.	Air intake performance (distortions, efficiency…). • Pressure distribution on nacelle lips. • Drag measurements.	Up to Mach 0,95
Isolated propeller testing. Diameter: 0.5 to 3 m.	Shaft mounted propeller (2 types of model mounts available)	S1MA	RPM variations. Blade setting variations. α and β adjustable with fixed wedges.	Propeller efficiency. • Acoustic measurements (for small models). • Pressure measurements (steady and unsteady).	Up to Mach 0,95
Full model. Wing span: 1.2 m typical.	Straight sting. Z sting. Fin sting. Twin sting.	S2MA	α sweep polars (range = 25°). β sweep polars (range = 22°).	Aircraft control qualities. • Accurate drag measurements. • Buffet onset. • Sting near field effect. • Structural loading. • Pressure distribution (steady, unsteady). • Wake survey.	Subsonic and supersonic conditions (up to Mach 3.1)
Half model . Half span: 1.2 m typical.	Side wall mounted (range 360°).	S2MA	α sweep polars. polars with all parameters fixed.	• Additional drag induced by: - turbines (TPS), - flow-through nacelles. • Basic research developments.	Subsonic and supersonic conditions (up to Mach 3.1)

Model type	Model rigging	Wind tunnel	Typical test program	Test objective	Mach number range
Isolated nacelle testing.	Side wall strut mounting (with / without TPS).	S2MA	• α sweep polars. • polars with all parameters fixed.	• Nacelle drag measurements.	Subsonic and supersonic conditions (up to Mach 3.1)
Air intake model for supersonic aircraft. Typical cross section: 150 x 110 mm.	Vertical strut mounting. Mass flow control and measurement units. Internal rakes (steady, unsteady).	S3MA	• Internal flow characteristics. • a, β range: ± 6° (fixed value).	• Air intake distortion and recovery (steady and unsteady). • Flow surface pressure distribution.	Up to Mach 5.5
Full model. After body model. Wing span: 3 m typical.	Sting support. Three strut support. Single strut support.	F1	α range = 25°, β range = ± 15°. • α range = 30°. • α range = 34°, β range = 90°. • Reynolds effect. • Pressure ratio variations.	Load measurements. • High-lift configurations. • Control surface load measurement. • Ground effect testing. • Pressure distribution. • Wake survey. • Acoustic measurements. • Additional drag induced by: - propellers, - turbines (TPS), - flow-through nacelles.	Up to Mach 0.36
Half model . Half span: 2.5 m.	Bottom wall mounted.	F1	• α sweep polars. • polars with all parameters fixed. • Reynolds effects.	• Additional drag induced by: - propellers, - turbines (TPS), - flow-through nacelles.	Up to Mach 0.36
Isolated air intake testing.	Air intake test rig (maximum mass flow: 75 kg/s). Side wind capacity.	F1	• α sweep polars. • β sweep polars. • Mass flow variations. • Reynolds effect.	• Air intake performance. • Pressure distribution on nacelle lips. • External flow survey. • Flight Reynolds simulation.	Up to Mach 0.36
Airfoil profiles.	Two-dimensional test section. Wake survey.	S3MA	• Pitch and pause.	• CFD validation. • Pressure distribution. • Drag measurement. • Unsteady measurements on pitch oscillating profile models.	Up to Mach 5.5
Airfoils profiles	Two-dimensional set-up.	F1	• α pitch and pause polars. • Wake survey.	• CFD validation. • Pressure measurement. • Drag measurement.	Up to Mach 0.36