

Propeller powered aircraft

Detailed testing capabilities

Model type	Model rigging	Wind tunnel	Typical test program	Test objective	Mach number range
Isolated propeller testing. Diameter: 0.5 to 3 m.	Specific test rigs for isolated propeller and installed effect measurements development ongoing.	SIMA	<ul style="list-style-type: none"> • RPM variations. • Blade setting variations. • α and β adjustable with fixed wedges. 	<ul style="list-style-type: none"> • Propeller efficiency. • Acoustic measurements (for small models). • Pressure measurements (steady and unsteady). 	M<1
Full model. Propeller motorized (with air turbine)	Single strut	F1			M<0,36
Air intake test (with propeller effect)		SIMA	<ul style="list-style-type: none"> • RPM variations. • Blade setting variations. • α and β adjustable with fixed wedges. 	<ul style="list-style-type: none"> • Air intake efficiency. • Pressure measurements (steady and unsteady). 	M<1
Full model. Wing span: 3 to 4 m. Propeller motorized (with air turbine)	Straight sting Z sting Fin sting Twin sting	SIMA	<ul style="list-style-type: none"> <input type="checkbox"/> sweep polars (range = 45°). <input type="checkbox"/> sweep polars (range = 20°). 	<ul style="list-style-type: none"> • 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, 	M<1
Half model Half span: 1 to 4.5 m Propeller motorized (with air turbine)	Bottom wall mounted.	SIMA	α sweep polars. polars with all parameters fixed.	Laminar flow control. Additionnal drag induced by propellers,	M<1