

Helicopter and convertible

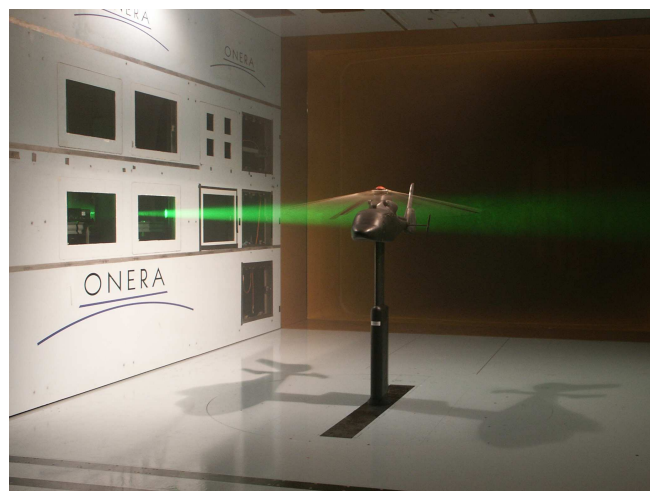
GMT test facilities offer large capabilities for testing helicopter and convertible aircraft, with complete model or isolated rotor in the different flight phases (take of, cruise, landing, limit of the flight envelope conditions ...).

- ❖ Isolated rotor test
- ❖ Integrated rotor test

Model type	Model rigging	Wind tunnel	Typical test program	Test objective
Helicopter rotors. Maximum diameter: 4 m.	Specific rig. Tilt capability: -95°, +25°.	S1MA	Specific remote control blade setting.	<ul style="list-style-type: none"> • Rotor performance. • Acoustic measurements. • Steady and unsteady pressure measurements.
Helicopter blade profiles.	Two-dimensional test section. Wake survey.	S3MA	• Pitch and pause.	<ul style="list-style-type: none"> • CFD validation. • Pressure distribution. • Drag measurement. • Unsteady measurements on pitch oscillating profile models.
Full helicopter model (rotor diameter: 1.5 m).	Specific rig. - RPM: 1,270; - power: 4 kW; - shaft and side slip angle control; - maximum speed: 40 m/s.	F1	<ul style="list-style-type: none"> • Reynolds effect. • Specific remote control blade setting. 	<ul style="list-style-type: none"> • Loads. • Model pressure distribution.
Isolated rotor model (rotor diameter: 1.7 m).	Specific rig. - RPM: 3,000; - power: 44 kW; - shaft angle control; - maximum speed: 80 m/s.	F1	• Specific remote control blade setting.	<ul style="list-style-type: none"> • Blade pressure measurement. • Rotor loading measurement.



Isolated rotor model test in S1MA



Full helicopter model test in F1