Military Aircraft
Detailed testing capabilities

Model type	Model rigging	Wind tunnel	Typical test program	Test objective	Mach number range
Full model. Typical scale: 1/4.	Straight sting. Fin sting.	S1MA	• α sweep polars (range = 45°). • β sweep polars (range = 20°).	• Pressure distribution. • Wake measurements. • Aircraft control qualities. • Accurate drag measurements. • Structural loading.	M<1
Air intake model. Typical scale: 1/8 to 1/4.	High angle of attack device (range 110°). With / without ejector. Mass flow control and measurements units. Internal rake (steady, unsteady).	S1MA	• Internal flow characteristics. • α sweep polars. • β sweep polars.	• Air intake distortion and recovery (steady, unsteady). • Drag measurements. • Flow surface pressure distribution.	M<1
Store separation model.	CTS mounting rig.	S1MA	• Store trajectory simulation. • Predefined grid program.	• Store separation analysis.	M<1
Drop test model.	Straight sting.	S1MA	Drop test with various model attitudes.	Drop trajectory camera recording.	M<1
Full model with combustion simulation.	Top wall mast mounting.	S1MA	Fuel injection variations.	• Infrared signature. • Jet flow analysis.	M<1
Full model. Typical scale: 1/16.	Specific model rigs. α range 25° (standard). α range 46° (special device). β range 35° (special device)	S2MA	• α and β polars.	• Pressure distribution. • Wake measurements. • Aircraft control qualities. • Accurate drag measurements. • Structural loading. • Store load measurements	0,2<M<3,1

Model type	Model rigging	Wind tunnel	Typical test program	Test objective	Mach number range
Air intake model. Typical scale: 1/4 in supersonic conditions and 1/7 in transonic conditions.	Standard sting holder or high angle of attack device (range 46°). With / without ejector. Mass flow control and measurements units. Internal rakes (steady, unsteady)	S2MA	• Internal flow characteristics. • α sweep polars. • β sweep polars	• Air intake distortion and recovery (steady, unsteady). • Drag measurements. • Flow surface pressure distribution	0,2<M<3,1
After body.	Side wall mounted. Primary and secondary cold jet simulation.	S2MA	Mass flow variations	• Accurate drag measurements with jet simulation. • Pressure distribution.	0,2<M<3,1
Full aircraft model. Store model.	CTS mounting rig.	S2MA	• Store trajectory simulation. • Predefined grid program.	Store separation analysis.	0,2<M<3,1
Drop test model.	Straight sting (supersonic test section).	S2MA	Drop test at various model attitudes.	Drop trajectory camera recording.	0,2<M<3,1
Generic models for research programs.	Sting mounted.	S3MA			0,1<M<5,5
Full model.	Very high model attitude rig.	F1	• α sweep. • β sweep.	Aircraft maneuverability.	M<0,36
Radome scaled down model.	Sting mounted, specific rig.	S3MA	Analysis of rain or sand impact.	Erosion effects.	0,1<M<1,3
Nozzles / afterbodies tests with heated core and secondary floors		BD2		nozzle and afterbody performances	