

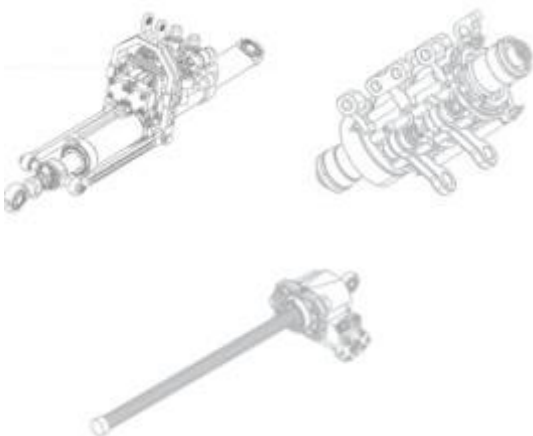
# Servo actuator test bench

SATB



**TESEO Servo Actuator Test Bench (SATB) is the standard test bench platform which serves R&D and product end of line test of :**

- Linear servo-actuators for aircraft FLAPS
- Rotary servo-actuators for aircraft
  - Leading Edge Flap Actuation System (LEFAS)
  - Trailing Edge Flap Actuation System (TEFAS)
- Linear Main and Tail Rotors servo-actuators



## LEAN MANUFACTURING IN AEROSPACE AND DEFENSE

TESEO has been retained as supplier of choice for the programs :

Fix Wing: CESSNA, M346, Eurofigther

Rotary Wing: Light Utility Helicopter (LUH) and  
Advanced Light Helicopter (ALH)

## TECHNICAL DATA

TYPE OF FEATURES	HELICOPTER ACTUATORS Serves already over 5 linear	AIRCRAFT ACTUATORS Serves already over 19 linear and 4 rotary
Physical Data	Size 3100x1400x1700 mm Weight 1200 Kg Power 380VAC-32A	Size 2500x1350x1800 Weight 900 Kg Power 380VAC-40A
Technical features	Linear input axe with position control according to selected wave profile (sinus, triangle, trapezius, square) and with frequency up to 15Hz.  Reaction load control with PID up to 30KN.  Hydraulic control with PID up to 300 Bars.	Two rotative axes with speed and torque control.    Reaction load control with PID up to 50KN.
Aquisition System  Functional test	<b>National Instruments Real-Time</b>  <b>Common Features</b> <ul style="list-style-type: none"> <li>• Stall Load &amp; Synchronization</li> <li>• Linearity</li> <li>• Hysteresis</li> <li>• Frequency Response</li> <li>• Threshold Verification</li> <li>• Internal Leakage</li> </ul>	<b>National Instruments Real-Time</b>  <b>Common Features</b> <ul style="list-style-type: none"> <li>• Run-In</li> <li>• Efficiency</li> <li>• Backlash</li> <li>• Irreversibility</li> </ul> <b>FLAP</b> <ul style="list-style-type: none"> <li>• Force Limiter in extension and retraction</li> <li>• Stroke Check</li> </ul> <b>LEFAS/TEFAS Rotary Actuator</b> <ul style="list-style-type: none"> <li>• Torque Limiter</li> </ul>
Options	Servo-Actuators fixture Custom test	Twin test station Servo-Actuators fixture Custom test

## KEY FIGURES

- Lean Manufacturing embedded design
- Real-Time for deterministic control
- Real-Time Ethercat for I/O management, Sensors and Actuations, with rugged synchronization (jitter lower than microsecond)
- Maximum accuracy in displacement measurement of 0,005mm.
- Maximum accuracy in load and torque measurement: up to 0,005Nm in Torque and up to 0,05% FS in Load.
- Calibration procedure embedded
- Automated detection of Servo-Actuator type
- User friendly Human Machine Interface that requires limited training for use and maintenance
- Linear maximum speed 160mm/sec on Input axe
- Linear maximum speed 30 mm/sec on reaction axe
- Rotary axe maximum speed 5.000 RPM.