

Hydraulic Test Stand For Flight Control Units

>HFCU5<



The test stand is developed for fully automatic testing of Hydraulic Flight Control Units (HFCUs) of the AIRBUS A320 in accordance with ATA Chapter 27.

The tests must be carried out in accordance with CMM / ATP.

The test stand can be adapted for Flight Control Units of other aircraft types.

- > High pressure supply for UUTs on the UUT connections which are either opened or closed - depending on the test procedure
- > Adjustable pressure in the return line for constant pressure ratios
- > Load cylinder for the UUT
- > Illuminated sight glass in the hydraulic return lines for UUT evaluation
- > Hydraulic supply and return can be provided by the customer or by a "TEST-FUCHS" Power Unit

APPLICATION RANGE

Name	P/N	CMM
ELEVATOR SERVOCONTROL	31075-Series	27-34-52
AILERON SERVOCONTROL	31073-Series	27-14-51
SPOILER INBOARD ACTUATOR	31077-Series	27-64-51

GENERAL INFORMATION

- > Extensive accessories with mechanic adapters, hoses, testing and measuring cables
- > Digital multimeter, universal-generator and UUT drive as racks
- > Safety doors at the test chamber of polyethylenterephthalat-glycol
- > Protected operational states at bypassed safety doors (for UUT mounting and demounting)
- > Leakage warning switch in the drip trays
- > Sensors for oil mist detection in the test chamber
- > Drip tray under testing area

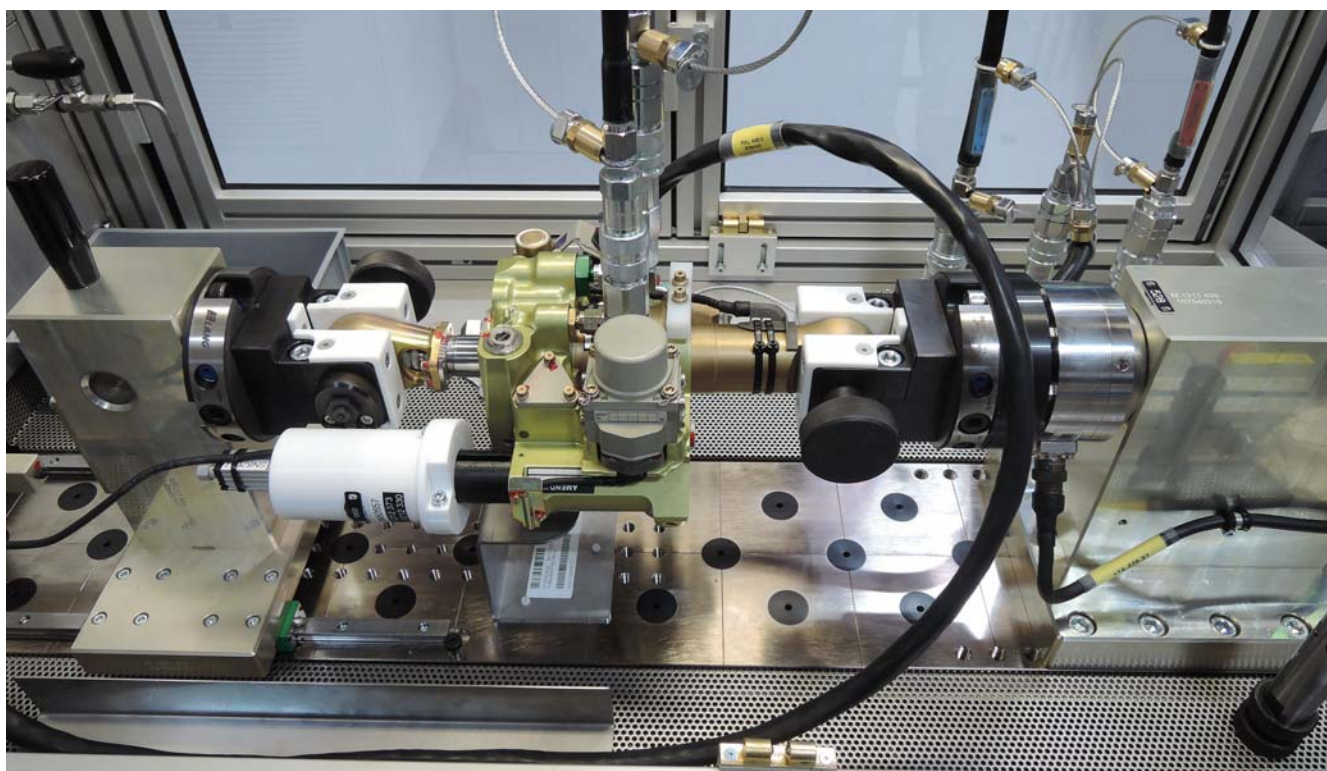
TECHNICAL DATA

<p>> Electrical supply (requirements):</p> <p>Mains connection: 3/N/PE AC 50Hz 400V</p> <p>Nominal power: 4A</p> <p>Short circuit power: max. 0.64kA</p> <p>Performance: 2.8kVA</p> <p>Prefuse: 16A char. C</p>	<p>> Hydraulic supply (requirements):</p> <p>Pressure: max. 315bar (4,568.7psi)</p> <p>Flow: max. 30l/min (7.9USgpm)</p> <p>Test medium: Skydrol LD4</p>
	<p>> Compressed air supply (requirements):</p> <p>Pressure: min. 6bar (87.0psi) max. 10bar (145.0psi)</p>

TECHNICAL DATA

<p>> Parameters load cylinder:</p> <p>Force: max. 10kN</p> <p>Stroke: max. 100mm (3.9in)</p> <p>Speed: max. 125mm/s (4.9in/s)</p>	<p>> Operating conditions:</p> <p>Operating temperature: 5 to 35°C (41 to 95°F)</p> <p>Storage temperature: 0 to 60°C (32 to 140°F)</p> <p>Height: up to 1,000m (3,280ft) via MSL</p> <p>Rel. air humidity: 10 to 95% (non-condensing)</p> <p>Altitude: in a non-explosive area</p>
<p>> Parameters UUT connection A:</p> <p>max. 10lpm at 315bar (2.6USgpm at 4,568.7psi)</p> <p>max. 30lpm at 207bar (7.9USgpm at 3,002.3psi)</p>	<p>> Dimensions and weight:</p> <p><u>Test stand</u></p> <p>Length: 3,400mm (133.9in)</p> <p>Width: 1,350mm (53.1in)</p> <p>Height: 2,600mm (102.4in)</p> <p>Weight: 2,250kg (4,960lb)</p> <p><u>Operating panel</u></p> <p>Length: 800mm (31.5in)</p> <p>Width: 1,100mm (43.3in)</p> <p>Height: 1,750mm (68.9in)</p>
<p>> Parameters UUT connection B - Return:</p> <p>max. 10bar (145.0psi)</p> <p>0.025l/min to 30l/min (0.007USgpm to 7.9USgpm)</p>	
<p>> Parameters UUT connection C:</p> <p>50 to 300bar (725.2 to 4,351.1psi)</p>	

UUT SETUP AILERON SERVOCONTROL



MEASUREMENT

<p>> Current Servo: (1 off) -12 to +12mADC ±0.1% of full scale</p>	<p>> Time (1 off) 0 to 50ms ±1ms abs.</p>
<p>> Current Solenoid: (2 off) 0 to 1ADC ±1% of full scale</p>	<p>> Voltage LVDT Excitation (3 off) 0 to 10VRMS ±0.5% of full scale</p>
<p>> Displacement (1 off) 0 to 250mm (0 to 9.8in) ±0.05mm abs. (±0.002in abs.) (1 off) 0 to 250mm (0 to 9.8in) ±5mm abs. (±0.20in abs.)</p>	<p>> Voltage LVDT Demod (2 off) -7 to +7VRMS ±0.1% of full scale (1 off) -0.7 to +0.7VRMS ±0.1% of full scale</p>
<p>> Flow (1 off) 0.008 to 2l/min (0.002 to 0.5USgpm) ±0.5% o.f.s.</p>	<p>> Voltage LVDT RMS (2 off) 0 to 7VRMS ±0.1% of full scale (1 off) 0 to 0.7VRMS ±0.1% of full scale</p>
<p>> Force (1 off) -10 to +10kN (2 ranges) ±0.25% o.f.s. -1,000 to +1,000N ±0.5% of measurement range</p>	<p>> Voltage Multimeter (3 off) 0 to 1VRMS ±0.0007VRMS abs. 0 to 10VRMS ±0.007VRMS abs.</p>
<p>> Pressure (1 off) 0 to 2.5bar (0 to 36.3psi) (1 off) 0 to 10bar (0 to 145.0psi) (1 off) 0 to 40bar (0 to 580.2psi) (1 off) 0 to 60bar (0 to 870.2psi) (2 off) 0 to 100bar (0 to 1,450.4psi) (4 off) 0 to 350bar (0 to 5,076.3psi) ±0.5% of full scale</p>	<p>> Voltage Servo (1 off) -20 to +20VDC ±0.1% of full scale</p>
<p>> Stroke (1 off) 0 to 5mm (0 to 0.2psi) ±0.01mm abs. (±0.0004in abs.) (1 off) 0 to 50mm (0 to 2.0psi) ±0.1mm abs. (±0.004in abs.)</p>	<p>> Voltage Solenoid (2 off) 0 to 35VDC ±0.3% of full scale</p>
<p>> Temperature (3 off) 0 to 100°C (32 to 212°F) ±0.5°C abs. (±0.9°F abs.)</p>	<p>> Spannung Spike Solenoid (2 off) -60 to 60VDC ±0.5% of full scale</p>
	<p>> Frequency Excitation (1 off) 1.900 to 2.000Hz ±10ppm of reading</p>