


 MINISTERIO DE DEFENSA	SECRETARIA DE ESTADO DE DEFENSA  INSTITUTO NACIONAL DE TECNICA AEROSPACIAL	Doc. Nº.:MA-INS-4740-002-INTA	
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GENERAL DATA	
Equipment / System name:	Magnetic Cleanliness Facility
Equipment / System number:	4740-K11
Alias:	K11
Location:	INTA Torrejón, K11 building
Picture(s):	 

TESTING CAPABILITIES	
Types of tests that can be carried out in the Facility	<ol style="list-style-type: none"> 1. Magnetic cleanliness of equipment and mechanical parts: DC / AC magnetic field measurements, determination of the remaining and induced magnetic moments. 2. Magnetization and demagnetization. 3. Magnetic field susceptibility tests: DC, low frequency magnetic fields up to 1 kHz. 4. Calibration of magnetometers. 5. Thermo-magnetic signature.
Maximum dimensions of the equipment under test	1m x 1m x 1m.
Restrictions / Limitations	EUT Weight < 300 kg
Remarks	<ul style="list-style-type: none"> - Built in an area of minimum magnetic field gradient using non-magnetic materials. - Temperature and humidity control is achieved by a system located 25 m away from the building and controlled remotely. - Provided with two systems of three axes coils. - The system is provided with a rotary table whose motor (with a precision better than minutes of arc) is placed at 6 m to avoid magnetic contamination. - Geomagnetic compensation < 5 nT. in a volume of approx. 1 meter in diameter. - The facility has specific mobile coils for demagnetization with programmable AC / DC power supply up to a peak of 10 mT.
TECHNICAL CHARACTERISTICS	
Frequency Range	DC – 1KHz.
Magnetization/Demagnetization Maximum level	500 μ T

Maximum level of magnetic field intensity of the AC demagnetization system according to the waveform of the ECSS regulation	10 mT. peak										
Magnetometers / Data Acquisition System	<p>9 x Mag-03 FluxGates:</p> <ul style="list-style-type: none"> Bandwidth: 3 kHz Measurement range: from $\pm 70\mu\text{T}$ to $\pm 500\mu\text{T}$ Noise: <table border="1"> <tr> <td>basic version</td><td>$>10 \text{ a } 20\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz</td></tr> <tr> <td>standard version</td><td>$6 \text{ a } \leq 10\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz</td></tr> <tr> <td>low noise version</td><td>$<6\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz</td></tr> </table> <p>7 x Mag-13 FluxGates:</p> <ul style="list-style-type: none"> Bandwidth: 3 kHz Measurement range: from $\pm 70\mu\text{T}$ to $\pm 100\mu\text{T}$ Noise: <table border="1"> <tr> <td>standard version</td><td>$6 \text{ a } \leq 10\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz</td></tr> <tr> <td>low noise version</td><td>$<6\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz</td></tr> </table> <p>DAS1-10 Data Acquisition System with simultaneous measurement capacity of up to 10 sensors.</p>	basic version	$>10 \text{ a } 20\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz	standard version	$6 \text{ a } \leq 10\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz	low noise version	$<6\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz	standard version	$6 \text{ a } \leq 10\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz	low noise version	$<6\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz
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low noise version	$<6\text{pTrms}/\sqrt{\text{Hz}}$ a 1Hz										
Temperature Testing	-100 °C to 40 °C										

DRAWINGS / SCHEMES (if applicable)
Not applicable



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