


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p>Accredited to ISO/IEC 17025:2005</p>	<b>TRW Conekt</b>  <b>Issue No: 053    Issue date: 23 May 2014</b>	
	<b>Stratford Road</b> <b>Solihull</b> <b>West Midlands</b> <b>B90 4GW</b>	<b>Contact: Mr C Gregory</b> <b>Tel: +44 (0)121 627 3225</b> <b>Fax: +44 (0)121 627 4353</b> <b>E-Mail: colin.gregory@trw.com</b> <b>Website: www.conekt.co.uk</b>
<b>Testing performed at the above address only</b>		

### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS, METAL PRODUCTS and METAL COMPONENTS	<b>1 MATERIALS TESTING</b>  Vickers hardness (Loads: 5, 10 & 30 kg ) Vickers low load hardness (Loads from 0.2 to 5.0 Kg) Vickers microhardness (Loads from 0.05 to 0.20 Kg)	BS EN ISO 6507-1:2005 and Documented In-House Method
ORGANIC FLUIDS, BRAKE FLUIDS, PLASTICS and RUBBERS	<u>Chemical Tests</u>  Identification of molecular structure (2.5 fm to 25 fm absorbance)	Documented In-House Method M14 and BS 4181:Part 1:1985(1990) using infra-red spectrometry
RUBBERS	<u>Mechanical Tests</u>  Micro-indentation hardness (Wallace)	Documented In-House Method M57
METALLIC and NON-METALLIC MATERIALS	<u>Chemical Tests</u>  Semi-quantitative elemental micro-analysis - Atomic Numbers 5 to 92 - nominal limit of detection 0.1 % by weight - using scanning electron microscope with energy dispersive X-ray analyser	Documented In-House Methods M10



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Aerospace Equipment Alternators Electrical/Electronic Components Electro-mechanical Devices Engine Control Systems Generators Generator Control Units Ignition Systems IT Equipment Instruments Luminaires Microelectronic Circuits and Components Military Equipment and Material Motor Vehicle Components and Accessories Motor Vehicle Systems Power Supplies (Electrical) Transducers Voltage Regulators Weapon Systems	<p><b>2 EMC TESTING</b></p> <p>2.1 MILITARY AND AUTOMOTIVE</p> <p>2.1.1 Conducted Emissions 20 Hz to 400 MHz</p>	BS3G100:Part 4:Section 2: 1973/1980 CISPR 25:1995 CISPR 25:2002 CISPR 25:2008 DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1995 Supplements A and B Def Stan 59-411:2007 inc. A1:2008 DCE01.B, DCE02.B EUROCAE-ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1993 RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 MVEE 595:1975 Boeing D6-16050-2, -3, -4, -5B, -5C Westland Agusta EA98Q010J:1986 ES-XW7T-1A278-AB, Section CE 410 and CE 420 ES-XW7T-1A278-AC, Section CE 410 and CE 420 Fiat 9.90110, Section 2.7.10
	<p>2.1.2 Radiated Emissions 20 Hz to 40 GHz</p>	BS3G100:Part 4:Section 2: 1973/1980 CISPR 25:1995, Class 1-4 CISPR 25:2002 CISPR 25:2008 DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1995 Supplements D, E and F Def Stan 59/411:2007 inc. A1:2008 DRE01.B, DRE02.B



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.1 MILITARY AND AUTOMOTIVE (cont'd)</p> <p>2.1.2 Radiated Emissions (cont'd)</p>	<p>EUROCAE-ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1993 RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 SAE J1113/41 (1995) EC Directive 95/54/EC Annex VII and VIII EC Directive 2004/104/EC Annex VII &amp; VIII MVEE 595:1975 Boeing D6-16050-2, -3, -4, -5B, -5C Westland Agusta EA98Q010J:1986 General Motors GM 9114P:1987 ES-XW7T-1A278-AB, Section RE 310 ES-XW7T-1A278-AC, Section RE 310 Fiat 9.90110, Section 2.7.9 GMW 3097:2006</p>
	<p>2.1.3 Conducted Susceptibility 10 Hz to 400 MHz</p>	<p>ISO 11452-1:1995 ISO 11452-1:2005 ISO 11452-4:1995 ISO 11452-4:2001 ISO 11452-4:2005 BS3G100:Part 4:Section 2: 1973/1980 DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1995 Supplements G, H and J</p>



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.1 MILITARY AND AUTOMOTIVE (cont'd)</p> <p>2.1.3 Conducted Susceptibility (cont'd)</p>	<p>Def Stan 59-411:2007 inc. A1:2008 DCS01.B, DCS02.B, DCS03.B EUROCAE-ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1967 RTCA/DO-160A:1980 RTCA/DO-160F:2007 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 SAE J1113/2 (1996) SAE J1113/4 (1998) EC Directive 95/54/EC Annex IX EC Directive 2004/104/EC Annex IX MVEE 595:1975 Boeing D6-16050-2, -3, -4, -5B, -5C Westland Agusta EA98Q010J:1986 ES-XW7T-1A278-AB, Section RI 112 ES-XW7T-1A278-AC, Section RI 112, RI 150 Fiat 9.90110, Section 2.7.7 GMW 3097:2006</p>



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.1 MILITARY AND AUTOMOTIVE (cont'd)</p> <p>2.1.4 Radiated Susceptibility</p> <p>20 Hz to 18 GHz</p> <p>14 kHz to 18 GHz 200 V/m</p> <p>400 MHz to 1 GHz 700 V/m CW</p> <p>1 GHz to 18 GHz 3000 V/m CW (duty cycle 1% up to 2 GHz and 6 % up to 18 GHz)</p>	<p>ISO 11452-2:1995 ISO 11452-2:2004 ISO 11452-3:1995 ISO 11452-3:2001 ISO 11452-5:1995 ISO 11452-5:2002 BS3G100:Part 4:Section 2: 1973/1980 DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1995 Supplement V Def Stan 59-411:2007 inc. A1:2008 DRS01.B, DRS02.B, DRS03.B EUROCAE-ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1993 RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 SAE J1113-21:1998 EC Directive 95/54/EC Annex 9 EC Directive 2004/104/EC Annex IX ES-XW7T-1A278-AB, Section RI 114, RI 140 Mazda MES PW67600 (1995) test RI01-2 Ford ES-FZAF-1316-AA (1992) test RI01-2 ES-XW7T-1A278-AB, Section RI 110 and RI 114 ES-XW7T-1A278-AC, Section RI 114 MVEE 595:1975 Boeing D6-16050-2, -3, -4, -5B, -5C</p>



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As listed on Page 2	<b>2 EMC TESTING (cont'd)</b>  2.1 MILITARY AND AUTOMOTIVE (cont'd)  2.1.4 Radiated Susceptibility (cont'd)	Westland Agusta EA98Q010J:1986 Fiat 9.90110, Section 2.7.6 GMW 3097:2006
	2.1.5 Power Surges and Transients for damped sinusoids, 7 kHz - 100 MHz, maximum levels 1500 V/75 A	DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1995 Supplements, K, L, M, N, S and T Def Stan 59-411:2007 inc. A1:2008 DCS05.B, DCS06.B EUROCAE-ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1993 RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 Boeing D6-16050-2, -3, -4, -5B, -5C
	2.1.6 Automotive Transients, Noise and Voltage Tests	ISO 7637-1:1990 ISO 7637-1:2002 ISO 7637-2:1990 ISO 7637-2:2004 ISO 7637-3:1995 ES-XW7T-1A278-AB, Section CI 210, CI 220, CI 230, CI 240 CI 250, CI 260 & CI 270 ES-XW7T-1A278-AC, Section RI 130, CI 210, CI 220, CI 230, CI 250, CI 260 & CI 270 Fiat 9.90110, Section 2.7.4, 2.7.5 SAE J1113-11:1995, excluding Pulse 5



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.1 MILITARY AND AUTOMOTIVE (cont'd)</p> <p>2.1.6 Automotive Transients, Noise and Voltage Tests (cont'd)</p>	<p>SAE J1113-12:1994 EC Directive 2004/104/EC Annex X</p>
	<p>2.1.7 Exported Spikes and Transients</p>	<p>ISO 7637-1:1990 ISO 7637-2:1990 ISO 7637-2:2004 BOEING D6-16050-4:1991 BOEING D6-16050-5B:2004 BOEING D6-16050-5C DEF STAN 59-41:Issue 3:1988 DEF STAN 59-41:Issue 5:1993 Supplements C Def Stan 59-411:2007 inc. A1:2008 DCE03.B EUROCAE ED-14D:1997 MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 462:1967 RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 SAE J1113/42 (1994) Westland Agusta EA98Q010J:1986</p>
	<p>2.1.8 Lightning Strike Damped Sinusoids 3200 V/128 A 0.1/6.4 <math>\mu</math>s Pulse 2300 V/460 A 6.4/70 <math>\mu</math>s Pulse 1600 V/320 A</p>	<p>DEF STAN 59-41:Issue 5:1995 Supplement Q, short waveforms levels A, B, C and D, intermediate levels A, B and C RTCA/DO-160A:1980 RTCA/DO-160B:1984 RTCA/DO-160C:1989 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 Waveforms 1, 2, 3 and 4</p>



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.1 MILITARY AND AUTOMOTIVE (cont'd)</p> <p>2.1.9 Lightning Induced Effects Pin Injection Ground Injection Cable Induction Single Stroke Multiple Stroke Multiple Burst</p>	<p>RTCA/DO-160C:1989 section 22 RTCA/DO-160C:Change No 2:1992 Section 22 RTCA/DO-160D:1997 section 22 RTCA/DO-160D:Change No 3:2002 Section 22 RTCA/DO-160E:2004 section 22 RTCA/DO-160F:2007 section 22 EUROCAE ED-84:1997, Chapter 5 BOEING D6-16050-4:1991 Section 7.4 BOEING D6-16050-5B:2004 Section 7.4 BOEING D6-16050-5C Section 7.4 AIRBUS ABD0100.1.2 section 3.2.2 FAA AC20-136</p>
	<p>2.1.10 Electromagnetic Pulse (Induced Transients) for damped sinusoids, 7 kHz - 100 MHz maximum levels 1500 V/75 A</p>	<p>DEF STAN 59-41:Issue 5:1995 Supplements L and N Def Stan 59-411:2007 inc. A1:2008 DCS05.B MIL STD 461A:1968 MIL STD 461B:1980 MIL STD 461C:1986 MIL STD 461D:1993 MIL STD 461E:1999 MIL STD 461F:2007 MIL STD 462:1967 MIL STD 462D:1993 Westland Agusta EA98Q010J:1986</p>





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As listed on Page 2	<b>2 EMC TESTING</b> (cont'd)	
	2.1 MILITARY AND AUTOMOTIVE (cont'd)	
	2.1.11 Electrostatic Discharge ± 25 kV Air Discharge	DEF STAN 59-41:Issue 5:1995 Supplement R Def Stan 59-411:2007 inc. A1:2008 DCS10.B EUROCAE ED-14D:1997 RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007 ISO 10605:2001 ISO 10605:2008 ES-XW7T-1A278-AB, Section CI 280 ES-XW7T-1A278-AC, Section CI 280 Fiat 9.90110, Section 2.7.8 GMW 3097:2006
	2.1.12 Compass Safe Distance	RTCA/DO-160D:1997 RTCA/DO-160E:2004 RTCA/DO-160F:2007
	2.2 CIVIL	
2.2.1 Conducted Emissions 150 kHz to 30 MHz	EN 55022:1998 including Amendment A1:2000	
2.2.2 Electrostatic Discharge Immunity (ESD): Up to 15 kV Direct and Indirect Air and Contact Discharge Positive and Negative Polarity	EN 61000-4-2:1995 including Amendment 1:1998 and 2:2001	
2.2.3 Radiated Electromagnetic Field Immunity: 80 MHz to 2 GHz	EN 61000-4-3:1996 including Amendment A1:1998 and A2:2001	



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.2 CIVIL (cont'd)</p> <p>2.2.4 Fast Transient/Burst Immunity: 0.25 kV to 4.0 kV Positive and Negative Polarity 5 ns rise time, 10 ns duration 15 ms burst duration</p>	EN 61000-4-4:1995 including Amendment A1:2001 and A2:2001
	<p>2.2.5 Surge Immunity Waveforms: 0.2 kV to 4.4 kV 1.2/50 (8/20) <math>\mu</math>s Common mode Differential mode</p>	EN 61000-4-5:1995 including A1:2001
	<p>2.2.6 Conducted Radio Frequency Immunity: 150 kHz to 230 MHz RF voltage up to 10 V rms Injection via coupling networks, direct injection or bulk current injection</p>	EN 61000-4-6:1996 including Amendment A1:2001
	<p>2.2.7 Power-Frequency Magnetic Fields (Immunity)</p> <p>Frequency: 50 Hz Field strength: up to 10 A/m</p>	EN 61000-4-8:1993 including Amendment A1:2001
	<p>2.2.8 AC Power Ports Voltage Dips, Interruptions and Fluctuations (Immunity): Voltage Dips: up to 100 % Voltage Reductions: up to 100 % Voltage Fluctuations: up to 100 %</p>	EN 61000-4-11:1994 including Amendment A1:2001



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As listed on Page 2	<p><b>2 EMC TESTING (cont'd)</b></p> <p>2.2 CIVIL (cont'd)</p> <p>2.2.9 EMC Tests</p> <p>This section includes generic and product family standards that refer to basic standards included in Sections 2.2.1 to 2.2.8 of this Schedule.</p> <p>Note: International Standards, EN, ENV and IEC, listed in this Schedule, that have been adopted nationally as BS EN DD ENV and BS IEC and are technically identical, can be considered as being included in this Schedule.</p>	<p>EN 55014-2:1997 including Amendment A1:2001</p>								
	<p><b>FACILITIES</b></p> <p>Screened Room A: 2.45 m x 3.65 m x 3.1 m high Door: 0.9 m x 2.1 m high</p> <p>Screened Room B: 3.65 m x 6.1 m c 3.1 m high Door: 1 m x 2.1 m high</p> <p>Screened Semi-Anechoic Room C: 6 m x 5.4 m x 2.8 m high Door: 2 m x 2.1 m high</p> <p>Screened Semi-Anechoic Room D: 8.4 m x 6 m x 6 m Door: 2 m x 2.5 m high</p> <p>Screened Anechoic Room E: 7.1 m x 4.5 m x 3.3 m Door: 1.8 m x 2.1 m high</p>									
	<p>Power supplies:</p> <table border="0"> <tr> <td>50 Hz</td> <td>240 V</td> <td>50 A</td> </tr> <tr> <td>400 Hz</td> <td>50 A</td> <td></td> </tr> <tr> <td>DC 24 V</td> <td>10 A</td> <td></td> </tr> </table> <p>A 186 kVA variable speed drive with AC and DC load banks is connected to the screened room wall enabling generators, alternators and motors to be tested on load. Compressed Air and cooling water are also available.</p>		50 Hz	240 V	50 A	400 Hz	50 A		DC 24 V	10 A
50 Hz	240 V	50 A								
400 Hz	50 A									
DC 24 V	10 A									



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<p>Aerospace Equipment Alternators Electrical/Electronic Components Electro-mechanical Devices Engine Control Units Ignition Systems Information Technology</p> <p>Equipment Instruments: Indicating and Recording Microelectronic Circuits and</p>	<p><b>ENVIRONMENTAL TESTS (non explosive items)</b></p> <p><b>3 CLIMATIC TESTS</b></p> <p>3.1 Dry Heat Up to + 180 °C Min RH 20 % Test chamber size: 2500 litre</p>	<p>BS EN 60068-2-2:1993 BS EN 60068-2-2: 2007 RTCA/DO - 160D:1997 RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 501.3 DEF STAN 00-35 (Part 3)/3:1999: Test CL1 MIL-STD-810F:2000 Method 501.4 MIL-STD 810G:2008 Method 501.5 ISO 16750-4: 2003 Sections 5.1, 5.2 ISO 16750-4: 2006 Sections 5.1, 5.2 ISO 16750-4: 2010 Sections 5.1, 5.2</p>
<p>Components Military Equipment and Materials Motor Vehicle Components and Accessories Motor Vehicle Systems Transducers Weapon Systems</p>	<p>3.2 Humidity - Steady State Temperature: + 10 °C to + 85 °C Humidity: 20 % to 98 % RH Test chamber size: 2500 litre</p> <p>Humidity - Cyclic Temperature: + 10 °C to + 85 °C Humidity: 20 % to 98 % Variants 1 and 2 Test chamber size: 2500 litre</p> <p>Combined test - High humidity/low temperature Temperature: - 50 °C to + 85 °C</p>	<p>BS 2011:2.1 Ca:1977 IEC 68-2-3:1969 IEC 60068-2-78:2001 BS EN 60068-2-78: 2002:Test Cab DEF STAN 00-35 (Part 3)/3:1999: Test CL7</p> <p>BS EN 60068-2-30:1999, Test Db IEC 60068-2-30:1980 BS EN 60068-2-30:2005 RTCA/DO - 160D:1997 RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 507.3 MIL-STD-810F:2000 Method 507.4 MIL-STD-810G:2008 Method 507.5 DEF STAN 00-35 (Part 3)/3:1999: Test CL6 BS EN 60068-2-38:1999, Test Z/AD BS EN 60068-2-38:2009, Test Z/AD IEC 60068-2-38:1974</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>3 CLIMATIC TESTS (cont'd)</b></p> <p>3.2 (cont'd)</p> <p>Humidity: 20 % to 98 % RH Test chamber size: 2500 litre</p>	<p>ISO 16750-4: 2003 Sections 5.6, 5.7 ISO 16750-4: 2006 Sections 5.6, 5.7 ISO 16750-4: 2010 Sections 5.6, 5.7</p>
	<p>3.3 Salt Mist - Test chamber size: 1100 litre</p> <p>Salt Mist - Cyclic Max Temperature: + 70 °C Max Humidity: 100 % RH</p> <p>Test chamber size: 1100 litre</p> <p>Salt Mist/SO<sub>2</sub></p>	<p>BS EN 60068-2-11:1999: Test Ka BS 7479:1991 ISO 9227:1990 ISO 9227:2006 ISO 9227:2012 IEC 60068-2-11:1981 DIN 50021:1988 ASTM B117:2002 ASTM B117:2009 ASTM B117:2011 JIS Z2371:1994 BS EN 60068-2-52:1996, Test Kb RTCA/DO - 160D:1997 RTCA/DO - 160E:2004 RTCA/DO - 160F: 2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 509.3 MIL-STD-810F:2000 Method 509.4 MIL-STD-810G:2008 Method 509.5 DEF STAN 00-35 (Part 3)/3:1999: Test CN2 ASTM G85-02, Annex A4 ISO 16750-4: 2003 Section 5.5.1, 5.5.2 ISO 16750-4: 2006 Section 5.5.1, 5.5.2 ISO 16750-4: 2010 Section 5.5.1, 5.5.2</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>3 CLIMATIC TESTS (cont'd)</b></p> <p>3.4 Ingress Protection</p> <p>IP3X Solid Foreign Objects (diameter <math>\geq</math> 2.5 mm)</p> <p>IP4X Solid Foreign Objects (diameter <math>\geq</math> 1.0 mm)</p> <p>IP5XK Dust Protected</p> <p>IP6XK Dust Tight</p> <p>IPX1 Vertical Dripping Water</p> <p>IPX2 Vertical Dripping Water (15° tilted)</p> <p>IPX3 Spraying Water</p> <p>IPX4 Splashing Water</p> <p>IPX5 Water Jets</p> <p>IPX6 Powerful Jetting Water</p> <p>IPX7 Temporary Immersion</p> <p>IPX8 Continuous Immersion</p> <p>IPX9K Water with High Pressure/Steam Jet Cleaning</p> <p>IP4X Solid Foreign Objects (diameter <math>\geq</math> 1.0 mm)</p> <p>IP5XK Water Jets</p> <p>IP6XK Powerful Jetting Water</p> <p>Water Immersion</p>	<p>BS EN 60529:1992(2000)</p> <p>IEC 60529:2001</p> <p>DIN 40053:1972</p> <p>DIN 40 050:Part 9:1993</p> <p>ISO 20653:2006</p> <p>ISO 20653:2013</p> <p>ISO 16750-4: 2003 Section 7</p> <p>ISO 16750-4: 2006 Section 7</p> <p>ISO 16750-4: 2010 Section 7</p> <p>Dust chamber: 1 m x 1 m x 1 m</p> <p>Drip tray: 0.45 m x 0.35 m</p> <p>ISO 16750-4: 2010 Sections 5.10</p> <p>ISO 16750-4: 2003 Section 5.4.3</p> <p>ISO 16750-4: 2006 Section 5.4.3</p> <p>ISO 16750-4: 2010 Section 5.4.3</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>3 CLIMATIC TESTS (cont'd)</b></p> <p>3.5 Low Temperature Min Temperature: - 70 °C  Test chamber size: 2500 litre</p>	<p>BS EN 60068-2-1:1993 IEC 68-2-1:1990 BS EN 60068-2-1:2007 RTCA/DO - 160D:1997 RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 502.3 MIL-STD-810F:2000 Method 502.4 MIL-STD-810G:2008 Method 502.5 DEF STAN 00-35 (Part 3)/3:1999: Test CL4 ISO 16750-4: 2003 Sections 5.1, 5.2 ISO 16750-4: 2006 Sections 5.1, 5.2 ISO 16750-4: 2010 Sections 5.1, 5.2</p>
	<p>3.6 Thermal Cycling Temperature Range: - 70 °C to 180 °C Max rate: 5 °C/min Test chamber size: 2500 litre</p>	<p>BS 2011:2.1 N:1985, Test Nb IEC 68-2-14:1984 BS EN 60068-2-14:2000, Test Nb BS EN 60068-2-14:2009, Test Nb RTCA/DO - 160D:1997 Section 5.0 (Categories B and C) RTCA/DO - 160E:2004 Section 5.0 (Categories B and C) RTCA/DO - 160F: 2007 (Categories B and C) RTCA/DO - 160G:2010 Section 5.0 (Categories B and C) DEF STAN 00-35 (Part 3)/3:1999: Test CL2 (Procedure B) DEF STAN 00-35 (Part 3)/3:1999: Test CL5 (Procedure B) ISO 16750-4: 2003 Section 5.3 ISO 16750-4: 2006 Section 5.3 ISO 16750-4: 2010 Section 5.3</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>3 CLIMATIC TESTS (cont'd)</b></p> <p>3.7 Thermal Shock Temperature Range: - 80 °C to + 200 °C in &lt;30 secs</p>	<p>BS 2011:Part 2.1 Na:1985 IEC 68-2-14:1984 BS EN 60068-2-14:2000, Test Na BS EN 60068-2-14:2009, Test Na RTCA DO - 160D: 1997 Section 5.0 (Category S2) RTCA/DO - 160E:2004 Section 5.0 (Category S2) RTCA DO - 160F: 2007 Section 5.0 (Category S2) RTCA DO - 160G: 2010 Section 5.0 (Category S2) MIL-STD-810E:1989 Method 503.3 MIL-STD-810F:2000 Method 503.4 MIL-STD-810G:2008 Method 503.5 DEF STAN 00-35 (Part 3)/3:1999: Test CL14 ISO 16750-4: 2003 Sections 5.3.3 ISO 16750-4: 2006 Sections 5.3.2 ISO 16750-4: 2010 Sections 5.3.2</p>
	<p>3.8 Fluid Contamination Temperature Range: Ambient to + 150 °C (storage) Spray, dipped or brushed</p>	<p>BS EN 60068-2-74:2000 Part 2, Test Xc RTCA/DO - 160D:1997 RTCA/DO - 160E:2004 RTCA DO – 160G:2010 MIL-STD-810F:2000 Method 504 MIL-STD-810G:2008 Method 504.1 DEF STAN 00-35 (Part 3)/3:1999: Test CN4 ISO 16750-5: 2003 ISO 16750-5: 2010</p>





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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>3 CLIMATIC TESTS (cont'd)</b></p> <p>3.9 Icing Test chamber size: 2500 litre</p>	<p>RTCA/DO - 160C:1989, Section 24 Eqpt categories A, C RTCA/DO - 160D:1997, Section 24 Eqpt categories A, C RTCA/DO - 160E:2004, Section 24 Eqpt categories A, C RTCA/DO - 160F:2007, Section 24 Equipment categories A, C RTCA/DO – 160G:2010, Section 24 Equipment categories A, C MIL-STD-810E:1989, Method 521.1 MIL-STD-810F:2000, Method 521.2 MIL-STD-810G:2008 Method 521.3 DEF STAN 00-35 (Part 3)/3:1999, Test CL10 (Procedure A)</p>
	<p>3.10 Drip-Proof/Water-proof/Rain  Drip tray: 1.00 m x 0.75 m</p>	<p>RTCA/DO - 160C:1989, Section 10.3.1 RTCA/DO - 160D:1997, Section 10.3.1 RTCA/DO - 160E:2004, Section 10.3.2 RTCA/DO - 160F:2007, Section 10.3.2 RTCA/DO – 160G:2010, Section 10.3.2 MIL-STD-810E: 1989, Method 506.3, Procedure II MIL-STD-810F:2000, Method 506.4, Procedure III MIL-STD-810G:2008 Method 506.5, Procedure III DEF STAN 00-35 (Part 3)/3:1999 Test CL28</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>4 DYNAMIC TESTING (cont'd)</b></p> <p>4.1 Bump Testing Max mass: 700 kg Max size: 1.0 x 1.0 x 0.8 m Peak thrust: 66 kN Max level: 100 g</p>	<p>BS EN 60068-2-29:1993 IEC 68-2-29:1987 DEF STAN 00-35 (Part 3) Issue 3:1999, Test M12 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M12</p>
	<p>4.2 Mechanical Shock</p> <p>Max mass: 700 kg Max size: 1.0 m x 1.0 m x 0.8 m Peak thrust: 66 kN Max level: 180 g Table size: 750 mm x 750 mm</p>	<p>BS EN 60068-2-27:1993 BS EN 60068-2-27:2009 IEC 60068-2-27:2008 IEC 68-2-27:1987 MIL STD 810D:1983 Method 516.3 Section 3-4, Test Procedure II RTCA/DO - 160D:1997, (EUROCAE ED-14D) Test Procedure I RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 516.4 MIL-STD-810F:2000 Method 516.5 Test Procedures I and V MIL-STD-810G:2008 Method 516.6 Test Procedures I and V DEF STAN 00-35 (Part 3) Issue 3:1999, Test M3 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M3</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>4 DYNAMIC TESTING (cont'd)</b></p> <p>4.3 Vibration - Sinusoidal Frequency range: 3 Hz to 2.5 kHz Max mass: 700 kg Max size: 1.0 m x 1.0 m x 0.8 m</p> <p>Peak thrust: 66 kN</p> <p>Slip table size: 750 mm x 750 mm</p>	<p>BS 2011:2.1 Fc:1983 IEC 68-2-6:1982 BS EN 60068-2-6:1996 IEC 68-2-6:1995 BS EN 60068-2-6:2008 IEC 68-2-6:2007 EUROCAE ED-14C ISO 16750-3:2007(E) ISO 16750-3:2012(E) RTCA/DO - 160C:1989 (EUROCAE ED-14C) RTCA/DO - 160D:1997 (EUROCAE ED-14D) RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA / DO – 160G:2010 MIL-STD-810E:1989 Method 514.4 MIL-STD-810F:2000 Method 514.5 Test Procedure I and III DEF STAN 00-35 (Part 3) Issue 3:1999, Test M1 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M1</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>4 DYNAMIC TESTING (cont'd)</b></p> <p>4.4 Vibration - Random Frequency range: 3 Hz to 2.5 kHz Max mass: 700 kg Max size: 1.0 m x 1.0 m x 0.8 m Peak thrust: 66 kN Slip table size: 750 mm x 750 mm</p>	<p>BS 2011:2.1 Fdb:1973 BS 2011:2.1 Fd:1984 RTCA/DO - 160C:1989 (EUROCAE ED-14C) RTCA/DO - 160D:1997 (EUROCAE ED-14D) IEC 68-2-36:1984 IEC 68-2-37:1986 IEC 68-2-64:1993 ISO 16750-3:2007(E) ISO 16750-3:2012(E) RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 MIL-STD-810E:1989 Method 514.4 MIL-STD-810F:2000 Method 514.5 Test Procedure I and III RTCA / DO – 160G:2010 BS EN 60068-2-64:1995 (withdrawn) BS EN 60068-2-64:2008 DEF STAN 00-35 (Part 3) Issue 3:1999, Test M1 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M1</p>
	<p>4.5 Vibration - Sine on Random</p> <p>Frequency range: 3 Hz to 2.5 kHz Max mass: 700 kg</p> <p>Max size: 1.0 m x 1.0 m x 0.8 m Peak thrust: 66 kN Slip table size:  750 mm x 750 mm</p>	<p>ISO 16750-3:2007(E) ISO 16750-3:2012(E) RTCA/DO 160D:1997 (EUROCAE ED-14D) RTCA/DO - 160E:2004 RTCA/DO - 160F:2007 RTCA/DO - 160G:2010 MIL-STD-810E:1989 Method 514.4 MIL-STD-810F:2000 Method 514.5 Test Procedure I MIL-STD-810G:2008 Method 514.6 Test Procedure I DEF STAN 00-35 (Part 3) Issue 3:1999, Test M1 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M1</p>



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As listed on Page 12	<p><b>ENVIRONMENTAL TESTS (non explosive items) (cont'd)</b></p> <p><b>4 DYNAMIC TESTING (cont'd)</b></p> <p>4.6 Vibration - Sine on Random - Gunfire Frequency range: 3 Hz to 2.5 kHz Max mass: 700kg Max size: 1.0 m x 1.0 m x 0.8 m Peak thrust: 66 kN Slip table size: 750 mm x 750 mm</p>	<p>MIL-STD-810E:1989 Method 519.4 MIL-STD-810F:2000 Method 519.5 Test Procedure IV</p>
	<p>4.7 Free Fall, Drop &amp; Topple (Rough Handling)</p> <p>The tests in Sections 4.1 to 4.6 can be performed with temperature and humidity cycling. Temperature: - 50 °C to 180 °C Humidity: 20 % to 98 % RH Chamber size: 1500 litre (max)</p>	<p>BS EN 60068-2-31:1993 (withdrawn) IEC 68-2-31:1969 BS EN 60068-2-31:2008, excluding Free Fall Proc 2 (tumbling barrel) IEC 60068-2-31:2008, excluding Free Fall Proc 2 (tumbling barrel) MIL-STD-810E :1989, Method 516.4, Procedure VI MIL-STD-810F:2000, DEF STAN 00-35 (Part 3) Issue 3:1999, Test M4 DEF STAN 00-35 (Part 3) Issue 4:2006, Test M4</p>

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