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Test Report

Accredited Test
Laboratory (DATech)
Reg.No.DAT-P-087/99-11

The test results relate only to the items tested as mentioned below.
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Report No	**Number of** copies	pages	**issued** date
MHM-EST-7.70072185	1	6	25.05.2004

Test

Vibration tests

Test basis / specification

Customer specification, following NF F 60-002 and NF F 61-005

Unit under test (UUT)	**Type designation**	**Identification no.**
Sub-rack	europac Pro fer 6 U 84 HP (21T) 320D	test setup I to III acc. NF F 67-012

Client	**Manufacturer**
Schroff GmbH Langenalber Strasse 96 - 100 D - 75334 Straubenhardt	see client

Test engineer	**Receipt of UUT** date	**Test date / period of time**
B. Abel	10.05.2004	10. .- 12.05.2004

edited signature	**verified** signature
B. Abel Test Engineer	W. Jakobi Dept. Manager

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Table of contents

Integrated documents

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1 Test equipment

Equipment	Type	Ser.-No.	Manufacturer
shaker:	1000 IAR		Unholtz-Dickie
vibration control system:	V Win		Unholtz-Dickie
signal conditioner:	133	AG 88 AG 94	Endevco
accelerometers:	4501	1824079 1824078 1824080 1788420	Brüel & Kjaer
	T10B10	2624	Unholtz-Dickie

All measuring equipment is calibrated regularly according the calibration instruction of TÜV PRODUCT SERVICE GmbH. All calibrations are traced back to national standards.

2 Test procedure

2.1 Unit under test

The units under test were three sub-racks with individual test setups acc. NF F 67-012, point 4.0 to 4.2 and appendix A, B and C (see annex 1). According to the individual test setups the sub-racks were loaded with different weights.

2.2 Test specification

2.2.1 vibration test, sine

2.2.1.1 resonance search

frequency range:	7 Hz - 70 Hz
amplitude:	1 g
sweep rate:	1 Oct./min
test duration:	1 sweep / axis, in 3 axes

2.2.1.2 vibration test, endurance

frequency range:	7 Hz - 70 Hz
amplitude:	1 g
sweep rate:	1 Oct./min
test duration:	24 sweeps / axis, in 3 axes

2.3 Test sequence

No.	Test	Run	Axis	Measuring points and notes	
1	vibration test, sine 1 + 24 sweeps	1	Z-	test setup II	Ch. 2: casing, top, front, frame
		2		test setup I	Ch. 3: casing, top, back, frame
		3		test setup III	Ch. 4: casing, right side, top
		4	Y-	test setup III	Ch. 5: casing, back, boards, middle
		5		test setup I	
		6		test setup II	
		7	X-	test setup II	
		8		test setup I	
		9		test setup III	

3 Test results

The three units have passed the test successfully. The units under test were opened by the client for visual inspection by the client himself and our test engineer. The visual inspection showed no damages. The deflection of the 21T subrack was less than 0,5mm.
A detailed test will be carried out by the customer in this own test lab.

4 Legend of the measuring diagrams

4.1 vibration tests (see / A-2 / sheet 1)

1 frequency range in Hz
2 acceleration level in g
3 acceleration spectral density in g^2/Hz
4 test duration
5 acceleration "a", reference value in g (pk or rms)
6 acceleration "a", measured value in g (pk or rms)
7 velocity "v", reference value in m/s
8 velocity "v", measured value in m/s
9 displacement "d", reference value in mm
10 displacement "d", measured value in mm
11 indication of the control channel
12 indication of the measuring channels
13 vibration axis
14 number of run

5 Photo documentation

Photo 1: Z-axis test setup II

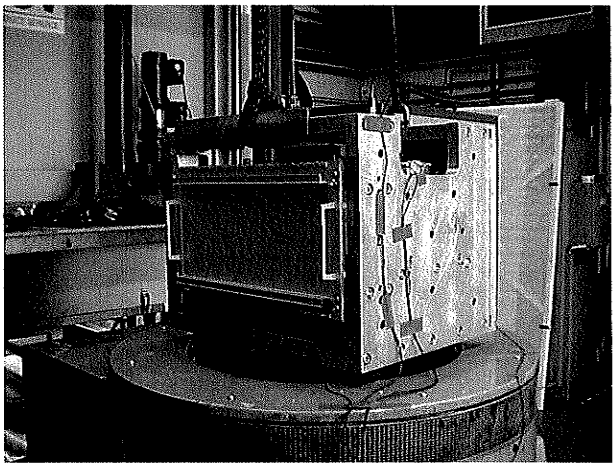


Photo 2: accelerometer Ch. 2

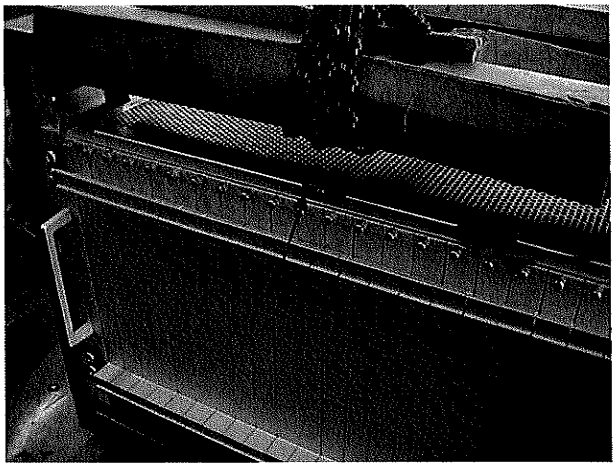


Photo 3: accelerometer Ch.3/ Ch.4

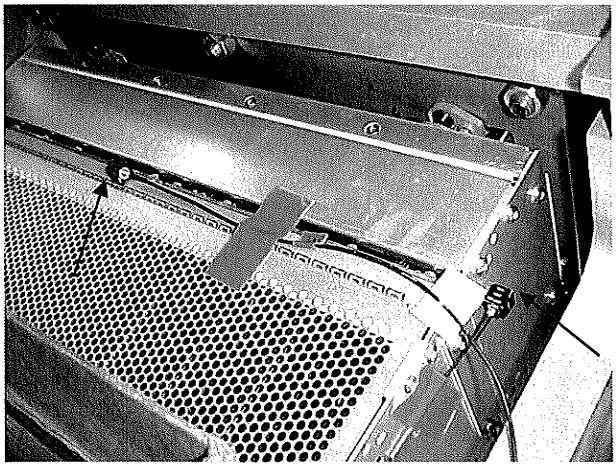


Photo 4: accelerometer Ch. 5

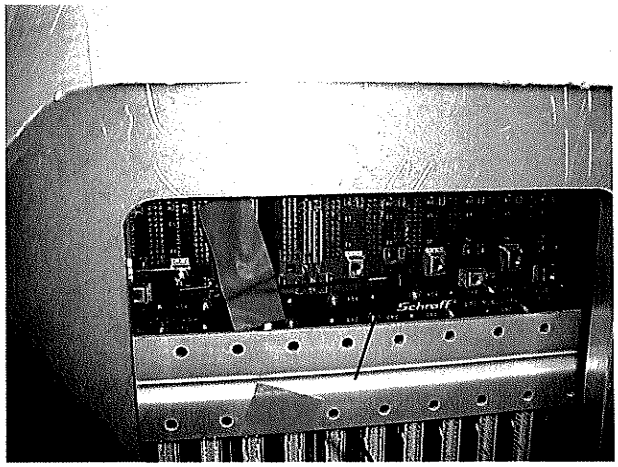


Photo 5: Z-axis

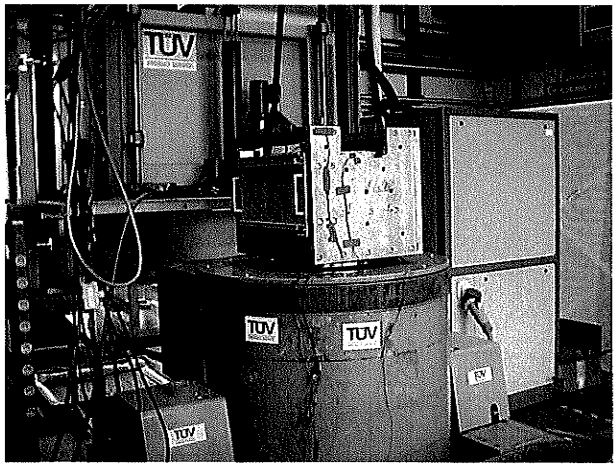


Photo 6: Y-axis test setup III

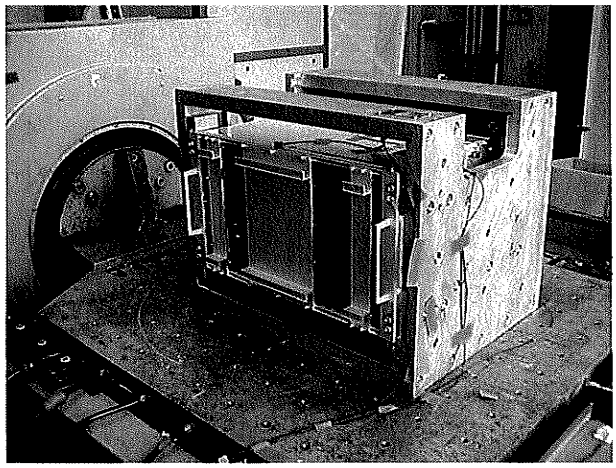
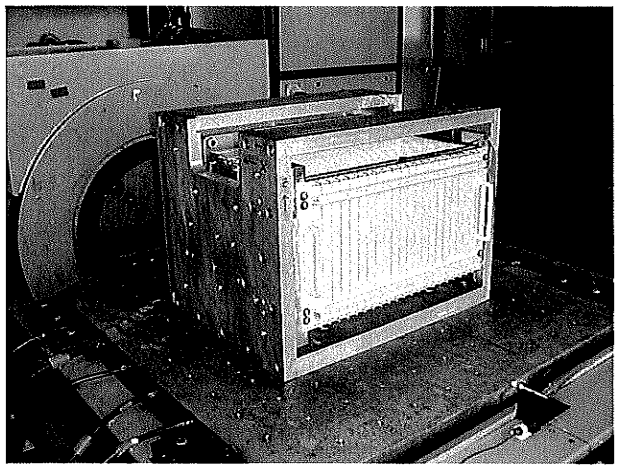


Photo 7: X-axis test setup I



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gehört zu Prüfbericht
MHM-EST-7.70072185 vom 25.05.2004