para-test.com
paragliding by air turquoise

Air Turquoise SA
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# Flight test report

ISO 9001 BUREAU VERITAS Certification

| | | | |
|---|---|---|---|
| Manufacturer | **Apco Aviation Ltd.** | Certification number | PG_0202.2009 |
| Address | 7, Chalamish St., Industrial park<br>38900 Caesarea<br>Israel | Date of flight test | 20. 01. 2009 |
| Representative | None | Place of test | Villeneuve |
| Glider model | **Libra S** | **Classification** | **C** |
| Trimmer | no | | |

| | | | | |
|---|---|---|---|---|
| **Test pilot** | Dupont Philippe | | Thurnheer Claude | |
| **Harness** | Sup' Air - Access S | | Sup'Air - Evo XC M | |
| **Total weight in flight (kg)** | 70 | | 95 | |
| **1. Inflation/Take-off** | **A** | | | |
| Rising behaviour | Smooth, easy and constant rising | A | Smooth, easy and constant rising | A |
| Special take off technique required | No | A | No | A |
| **2. Landing** | **A** | | | |
| Special landing technique required | No | A | No | A |
| **3. Speed in straight flight** | **B** | | | |
| Trim speed more than 30 km/h | Yes | A | Yes | A |
| Speed range using the controls larger than 10 km/h | Yes | A | Yes | A |
| Minimum speed | Less than 25 km/h | A | 25 km/h to 30 km/h | B |
| **4. Control movement** | **C** | | | |
| *Max. weight in flight up to 80 kg* | | | | |
| Symmetric control pressure / travel | Increasing / 40 cm to 55 cm | C | not available | 0 |
| *Max. weight in flight 80 kg to 100 kg* | | | | |
| Symmetric control pressure / travel | not available | 0 | Increasing / 45 cm to 60 cm | C |
| *Max. weight in flight greater than 100 kg* | | | | |
| Symmetric control pressure / travel | not available | 0 | not available | 0 |
| **5. Pitch stability exiting accelerated flight** | **A** | | | |
| Dive forward angle on exit | Dive forward less than 30° | A | Dive forward less than 30° | A |
| Collapse occurs | No | A | No | A |
| **6. Pitch stability operating controls during accelerated flight** | **A** | | | |
| Collapse occurs | No | A | No | A |
| **7. Roll stability and damping** | **A** | | | |
| Oscillations | Reducing | A | Reducing | A |
| **8. Stability in gentle spirals** | **A** | | | |
| Tendency to return to straight flight | Spontaneous exit | A | Spontaneous exit | A |
| **9. Behaviour in a steeply banked turn** | **B** | | | |
| Sink rate after two turns | Up to 12 m/s | A | More than 14 m/s | B |
| **10. Symmetric front collapse** | **B** | | | |
| Entry | Rocking back less than 45° | A | Rocking back less than 45° | A |
| Recovery | Spontaneous in 3 s to 5 s | B | Spontaneous in less than 3 s | A |
| Dive forward angle on exit / Change of course | Dive forward 0° to 30° / Keeping course | A | Dive forward 0° to 30° / Keeping course | A |
| Cascade occurs | No | A | No | A |
| *With accelerator* | | | | |
| Entry | Rocking back less than 45° | A | Rocking back less than 45° | A |
| Recovery | Spontaneous in 3 s to 5 s | B | Spontaneous in less than 3 s | A |

| | | | | |
|---|---|---|---|---|
| Dive forward angle on exit / Change of course | Dive forward 0° to 30° / Keeping course | A | Dive forward 0° to 30° / Keeping course | A |
| Cascade occurs | No | A | No | A |
| **11. Exiting deep stall (parachutal stall)** | **A** | | | |
| Deep stall achieved | Yes | A | Yes | A |
| Recovery | Spontaneous in less than 3 s | A | Spontaneous in less than 3 s | A |
| Dive forward angle on exit | Dive forward 0° to 30° | A | Dive forward 0° to 30° | A |
| Change of course | Changing course less than 45° | A | Changing course less than 45° | A |
| Cascade occurs | No | A | No | A |
| **12. High angle of attack recovery** | **C** | | | |
| Recovery | Spontaneous in 3 s to 5 s | C | Spontaneous in less than 3 s | A |
| Cascade occurs | No | A | No | A |
| **13. Recovery from a developed full stall** | **B** | | | |
| Dive forward angle on exit | Dive forward 30° to 60° | B | Dive forward 0° to 30° | A |
| Collapse | No collapse | A | No collapse | A |
| Cascade occurs (other than collapses) | No | A | No | A |
| Rocking back | Less than 45° | A | Less than 45° | A |
| Line tension | Most lines tight | A | Most lines tight | A |
| **14. Asymmetric collapse** | **C** | | | |
| *With 50% collapse* | | | | |
| Change of course until re-inflation / Maximum dive forward or roll angle | 90° to 180° / Dive or roll angle 0° to 15° | A | Less than 90° / Dive or roll angle 15° to 45° | A |
| Re-inflation behaviour | Spontaneous re-inflation | A | Spontaneous re-inflation | A |
| Total change of course | Less than 360° | A | Less than 360° | A |
| Collapse on the opposite side occurs | No | A | No | A |
| Twist occurs | No | A | No | A |
| Cascade occurs | No | A | No | A |
| *With 75% collapse* | | | | |
| Change of course until re-inflation / Maximum dive forward or roll angle | 90° to 180° / Dive or roll angle 15° to 45° | B | 90° to 180° / Dive or roll angle 15° to 45° | B |
| Re-inflation behaviour | Spontaneous re-inflation | A | Spontaneous re-inflation | A |
| Total change of course | Less than 360° | A | Less than 360° | A |
| Collapse on the opposite side occurs | No | A | No | A |
| Twist occurs | No | A | No | A |
| Cascade occurs | No | A | No | A |
| *With 50% collapse and accelerator* | | | | |
| Change of course until re-inflation / Maximum dive forward or roll angle | 90° to 180° / Dive or roll angle 0° to 15° | A | Less than 90° / Dive or roll angle 15° to 45° | A |
| Re-inflation behaviour | Spontaneous re-inflation | A | Spontaneous re-inflation | A |
| Total change of course | Less than 360° | A | Less than 360° | A |
| Collapse on the opposite side occurs | No | A | No | A |
| Twist occurs | No | A | No | A |
| Cascade occurs | No | A | No | A |
| *With 75% collapse and accelerator* | | | | |
| Change of course until re-inflation / Maximum dive forward or roll angle | 90° to 180° / Dive or roll angle 15° to 45° | B | 90° to 180° / Dive or roll angle 15° to 45° | B |
| Re-inflation behaviour | Spontaneous re-inflation | A | Spontaneous re-inflation | A |
| Total change of course | Less than 360° | A | Less than 360° | A |
| Collapse on the opposite side occurs | No | A | Yes, no turn reversal | C |
| Twist occurs | No | A | No | A |
| Cascade occurs | No | A | No | A |
| **15. Directional control with a maintained asymmetric collapse** | **A** | | | |
| Able to keep course | Yes | A | Yes | A |
| 180° turn away from the collapsed side possible in 10 s | Yes | A | Yes | A |
| Amount of control range between turn and stall or spin | More than 50 % of the symmetric control travel | A | More than 50 % of the symmetric control travel | A |
| **16. Trim speed spin tendency** | **A** | | | |
| Spin occurs | No | A | No | A |

| | | | | |
|---|---|---|---|---|
| **17. Low speed spin tendency** | **A** | | | |
| Spin occurs | No | A | No | A |
| **18. Recovery from a developed spin** | **A** | | | |
| Spin rotation angle after release | Stops spinning in less than 90° | A | Stops spinning in less than 90° | A |
| Cascade occurs | No | A | No | A |
| **19. B-line stall** | **A** | | | |
| Change of course before release | Changing course less than 45° | A | Changing course less than 45° | A |
| Behaviour before release | Remains stable with straight span | A | Remains stable with straight span | A |
| Recovery | Spontaneous in less than 3 s | A | Spontaneous in less than 3 s | A |
| Dive forward angle on exit | Dive forward 0° to 30° | A | Dive forward 0° to 30° | A |
| Cascade occurs | No | A | No | A |
| **20. Big ears** | **B** | | | |
| Entry procedure | Dedicated controls | A | Dedicated controls | A |
| Behaviour during big ears | Stable flight | A | Stable flight | A |
| Recovery | Spontaneous in less than 3 s | A | Recovery through pilot action in less than a further 3 s | B |
| Dive forward angle on exit | Dive forward 0° to 30° | A | Dive forward 0° to 30° | A |
| **21. Big ears in accelerated flight** | **B** | | | |
| Entry procedure | Dedicated controls | A | Dedicated controls | A |
| Behaviour during big ears | Stable flight | A | Stable flight | A |
| Recovery | Spontaneous in 3 s to 5 s | A | Recovery through pilot action in less than a further 3 s | B |
| Dive forward angle on exit | Dive forward 0° to 30° | A | Dive forward 0° to 30° | A |
| Behaviour immediately after releasing the accelerator while maintaining big ears | Stable flight | A | Stable flight | A |
| **22. Behaviour exiting a steep spiral** | **A** | | | |
| Tendency to return to straight flight | Spontaneous exit | A | Spontaneous exit | A |
| Turn angle to recover normal flight | Less than 720°, spontaneous recovery | A | Less than 720°, spontaneous recovery | A |
| Sink rate when evaluating spiral stability [m/s] | 13 | | 18 | |
| **23. Alternative means of directional control** | **A** | | | |
| 180° turn achievable in 20 s | Yes | A | Yes | A |
| Stall or spin occurs | No | A | No | A |
| **24. Any other flight procedure and/or configuration described in the user's manual** | **0** | | | |
| Procedure works as described | not available | 0 | not available | 0 |
| Procedure suitable for novice pilots | not available | 0 | not available | 0 |
| Cascade occurs | not available | 0 | not available | 0 |
| **25. Comments of test pilot** | | | | |
| Comments | | | | |

# Air Turquoise Homologations
# LOAD DIAGRAM

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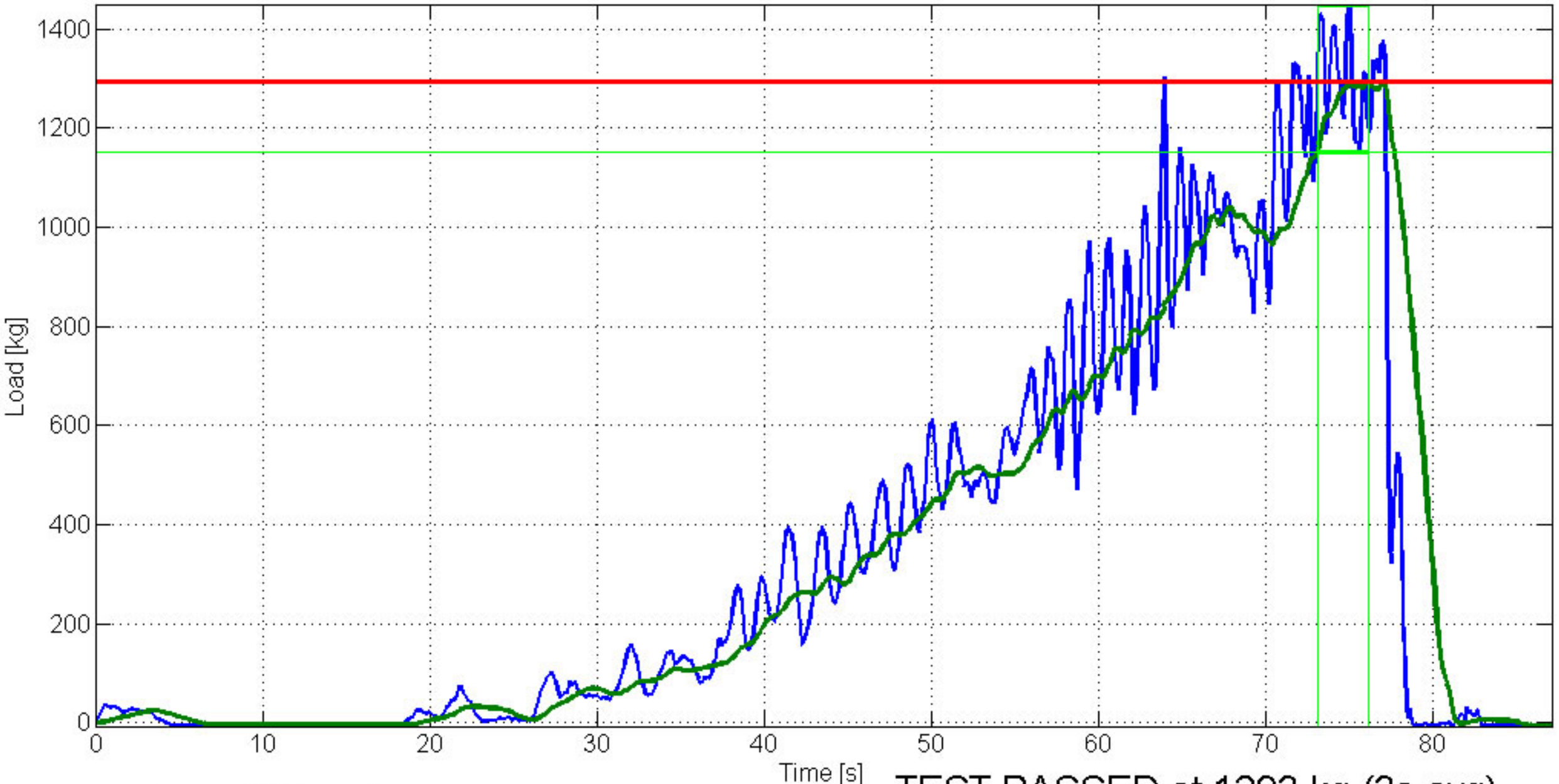
021 965 65 65 / info@airturquoise.ch




## Apco Libra L

TEST PASSED at 1293 kg (3s avg)
18.7.2009 - 9:39