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Sky Paragliders a.s.

Okružní 39

PG\_0449.2011

07.07.2011

## AIR TURQUOISE SA certified by



## Flight test report: EN

Manufacturer

Address

|                                   | Address                                   | Okružní 39<br>73911 Frýdlant nad Ostravici<br>Czech Republic | Date of flight test                     |                              | 07. 07. 2011                            |        |
|-----------------------------------|---|--|---|------------------------------|---|--------|
|                                   | Representative                            | None   | Place of test                           |                              | Villeneuve                              |        |
|                                   | Glider model                              | Antea 2 S  | Classification                          |                              | С                                       |        |
|                                   | Trimmer                                   | no   |   |                              |   |        |
|                                   |   |  |   |                              |   |        |
|                                   |   |  |   |                              |   |        |
| Test pilot                        |   | Dupont Philippe  |   | Thurnheer Claude             |   |        |
|                                   |   | Harness  | Sup'Air - Altiplume S                   |                              | Sup' Air - Altiplume S                  |        |
|                                   |   | Total weight in flight (kg)                                  | 60                                      |                              | 80                                      |        |
|                                   | 1. Inflation/Take-off                     |  | Α                                       |                              |   |        |
|                                   | Rising behaviour                          |  | Smooth, easy and constant rising        | А                            | Smooth, easy and constant rising        | А      |
|                                   | Special take off technique r              | equired  | No                                      | А                            | No                                      | А      |
|                                   | 2. Landing                                |  | Α                                       |                              |   |        |
|                                   | Special landing technique re              | equired  | No                                      | А                            | No                                      | А      |
|                                   | 3. Speed in straight flight               |  | Α                                       |                              |   |        |
|                                   | Trim speed more than 30 ki                | m/h  | Yes                                     | А                            | Yes                                     | А      |
|                                   | Speed range using the cont                | trols larger than 10 km/h                                    | Yes                                     | А                            | Yes                                     | А      |
|                                   | Minimum speed                             |  | Less than 25 km/h                       | А                            | Less than 25 km/h                       | А      |
|                                   | 4. Control movement                       |  | Α                                       |                              |   |        |
| Max. weight in flight up to 80 kg |   |  |   |                              |   |        |
|                                   | Symmetric control pressure / travel       |  | Increasing / greater than 55 cm         | А                            | not available                           | 0      |
|                                   | Max. weight in flight 80 kg t             |  |   |                              |   |        |
|                                   | Symmetric control pressure / travel       |  | not available                           | 0                            | Increasing / greater than 60 cm         | A      |
|                                   | Max. weight in flight greater than 100 kg |  |   | ~                            |   | •      |
|                                   | Symmetric control pressure                |  | not available                           | 0                            | not available                           | 0      |
|                                   | 5. Pitch stability exiting a              | ccelerated flight  | A<br>Dive forward less than 30°         | ^                            | Dive featured lace there 20°            | ^      |
|                                   | Dive forward angle on exit                |  | No                                      | A<br>A                       | Dive forward less than 30°<br>No        | A<br>A |
|                                   | Collapse occurs                           | g controls during accelerated                                | A                                       | A                            | 110                                     | A      |
|                                   | flight                                    |  | 2                                       |                              |   |        |
|                                   | Collapse occurs                           |  | No                                      | А                            | No                                      | А      |
|                                   | 7. Roll stability and damp                | ing  | Α                                       |                              |   |        |
|                                   | Oscillations                              |  | Reducing                                | А                            | Reducing                                | А      |
|                                   | 8. Stability in gentle spira              | ls   | A                                       |                              |   |        |
|                                   | Tendency to return to straig              | ht flight  | Spontaneous exit                        | А                            | Spontaneous exit                        | А      |
|                                   | 9. Behaviour in a steeply                 | banked turn  | В                                       |                              |   |        |
|                                   | Sink rate after two turns                 |  | More than 14 m/s                        | В                            | More than 14 m/s                        | В      |
|                                   | 10. Symmetric front colla                 | ose  | Α                                       |                              |   |        |
|                                   | Entry                                     |  | Rocking back less than 45°              | А                            | Rocking back less than 45°              | A      |
| Recovery                          |   | Spontaneous in less than 3 s                                 | А                                       | 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                                      | А                            | No                                      | А      |
|                                   | With accelerator                          |  |   |                              |   |        |
|                                   | Entry                                     |  | Rocking back less than 45°              | A                            | Rocking back less than 45°              | A      |
|                                   |   |  |   |                              |   |        |

Spontaneous in less than 3 s

А

Certification number

Date of flight test

А

Spontaneous in less than 3 s

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

| 16. Trim speed spin tendency   | Α                                       |   |                                      |   |
|--|---|---|--------------------------------------|---|
| Spin occurs  | No                                      | А | No                                   | А |
| 17. Low speed spin tendency  | Α                                       |   |                                      |   |
| Spin occurs  | No                                      | А | No                                   | А |
| 18. Recovery from a developed spin   | Α                                       |   |                                      |   |
| Spin rotation angle after release  | Stops spinning in less than 90 $^\circ$ | А | Stops spinning in less than 90°      | А |
| Cascade occurs   | No                                      | А | No                                   | А |
| 19. B-line stall   | Α                                       |   |                                      |   |
| Change of course before release  | Changing course less than 45°           | А | Changing course less than 45°        | А |
| Behaviour before release   | Remains stable with straight span       | A | Remains stable with straight span    | А |
| Recovery   | Spontaneous in less than 3 s            | А | Spontaneous in less than 3 s         | А |
| Dive forward angle on exit   | Dive forward 0° to 30°                  | А | Dive forward 0° to 30°               | А |
| Cascade occurs   | No                                      | А | No                                   | А |
| 20. Big ears   | А                                       |   |                                      |   |
| Entry procedure  | Standard technique                      | А | Standard technique                   | А |
| Behaviour during big ears  | Stable flight                           | А | Stable flight                        | А |
| Recovery   | Spontaneous in less than 3 s            | А | Spontaneous in less than 3 s         | А |
| Dive forward angle on exit   | Dive forward 0° to 30°                  | А | Dive forward 0° to 30°               | А |
| 21. Big ears in accelerated flight   | А                                       |   |                                      |   |
| Entry procedure  | Standard technique                      | А | Standard technique                   | А |
| Behaviour during big ears  | Stable flight                           | А | Stable flight                        | А |
| Recovery   | Spontaneous in less than 3 s            | А | Spontaneous in less than 3 s         | А |
| Dive forward angle on exit   | Dive forward 0° to 30°                  | А | Dive forward 0° to 30°               | А |
| Behaviour immediately after releasing the accelerator while maintaining big ears   | Stable flight                           | A | Stable flight                        | А |
| 22. Behaviour exiting a steep spiral   | Α                                       |   |                                      |   |
| Tendency to return to straight flight  | Spontaneous exit                        | А | Spontaneous exit                     | А |
| Turn angle to recover normal flight  | Less than 720°, spontaneous recovery    | A | Less than 720°, spontaneous recovery | А |
| Sink rate when evaluating spiral stability [m/s]                                   | 16                                      |   | 19                                   |   |
| 23. Alternative means of directional control                                       | А                                       |   |                                      |   |
| 180° turn achievable in 20 s   | Yes                                     | А | Yes                                  | А |
| Stall or spin occurs   | No                                      | А | No                                   | А |
| 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   |   |   |                                      |   |