Air Turquoise SA Rte du Pré-au-Comte 8 | CH-1844 Villeneuve tel. +41 21 965 65 65 | mobile +41 79 202 52 30 info@para-test.com

AIR TURQUOISE SA certified by

Flight test report: EN



Manufacturer	Ozone Gliders	Certification number	PG_0611.2012
Address	2, Queens Drive LA46LN . UK	Date of flight test	07. 08. 2012
Representative	None	Place of test	Villeneuve
Glider model	Ultralite 3 23	Classification	В
Trimmer	no		

Rising behaviour Special take off technique required No A Special take off technique required No A Special take off technique required No A Special landing technique required No A Special inding technique required No No A Special inding technique required No No A No A No A No A Special inding technique required No No A No A No A Special inding technique required No No A No A No A Special inding technique required No No A No A Special inding technique required No No A No A Special inding technique required No No A No A Special inding technique required No A No A Special inding technique required No A No A Special inding technique required No No A Special inding technique required No Increasing / greater than 55 cm A Special inding technique required No Increasing / greater than 55 cm A Special ind	Test pilo	t Schalbetter Cindy		Thurnheer Claude	
All inflation/Take-off Alkieing behaviour Smooth, easy and constant rising A Mooth, easy and constant rising A Mooth east easy and control eas	Harnes	Sup'Air - Altiplume S		Niviuk Gliders - Hamak M	
All inflation/Take-off Alkieing behaviour Smooth, easy and constant rising A Mooth, easy and constant rising A Mooth east easy and control eas	Total weight in flight (kg) 55		90	
Special take off technique required A 2. Landing A 3. Special landing technique required No A No	1. Inflation/Take-off				
2. Landing Special landing technique required No Special landing technique required B Trim speed more than 30 km/h Yes A Control movement A Accontrol movement Accontrol movement Amax. weight in flight up to 80 kg Symmetric control pressure / travel No A wax. weight in flight up to 80 kg Symmetric control pressure / travel No A wax. weight in flight greater than 100 kg Symmetric control pressure / travel No A not available No A N	Rising behaviour	Smooth, easy and constant rising	Α	Smooth, easy and constant rising	Α
Special landing technique required B 3. Speed in straight flight B 7	Special take off technique required	No	Α	No	Α
3. Speed in straight flight Prim speed more than 30 km/h Yes A Yes A Yes A Yes A Mes A Minimum speed A. Control movement A A. Control movement A A. Control movement A A. Not available O Increasing / greater than 55 cm A not available O Increasing / greater than 55 cm A not available O Increasing / greater than 55 cm A not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A. Not available O Increasing / greater than 60 cm A A A Not available O Increasing / greater than 60 cm A A A Not available O Increasing / greater than 60 cm A A A Not available O Increasing / greater than 60 cm A A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater than 60 cm A A Not available O Increasing / greater th	2. Landing	Α			
Trim speed more than 30 km/h Yes A Yes A Yes A Yes A Yes A Yes A Control speed more than 30 km/h Yes A Control movement A A Acontrol movement Amax. weight in flight up to 80 kg Symmetric control pressure / travel Increasing / greater than 55 cm A not available O Increasing / greater than 60 cm A not available O Increasing / greater than 60 cm A max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Increasing / greater than 55 cm A not available O Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel Increasing / greater than 50 cm A Dive forward less than 30° A Dive forward less than 30° A No A No B Dive forward less than 30° A No A No A No A No A No A No A Reducing A Spontaneous exit A Spontaneous exit A Spontaneous exit A Spontaneous exit A Spontaneous in a steeply banked turn B Sink rate after two turns B Sink rate after two turns B Coking back less than 45° A Rocking back less than 45° A Pocking back less than 45° A Rocking back less	Special landing technique required	No	Α	No	Α
Speed range using the controls larger than 10 km/h Yes A Yes A Yes A Yes A Minimum speed 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25 km/h to 30 km/h B 25 km/h to 40 km/h B 25 km/h to 30 km/h B 25	3. Speed in straight flight	В			
Minimum speed 25 km/h to 30 km/h B 25 km/h to 30 km/h B 4. Control movement A. A	Trim speed more than 30 km/h	Yes	Α	Yes	Α
A Control movement Max. weight in flight up to 80 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 not available 1 not available	Speed range using the controls larger than 10 km/h	Yes	Α	Yes	Α
Max. weight in flight up to 80 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel not available not available 0 Increasing / greater than 60 cm A Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel not available 0 not available 1 not	Minimum speed	25 km/h to 30 km/h	В	25 km/h to 30 km/h	В
Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 not available 10 not av	4. Control movement	A			
Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel not available 0 Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 not available 0 not available 0 Spymetric control pressure / travel not available 0 not availabl	Max. weight in flight up to 80 kg				
Symmetric control pressure / travel not available 0 Increasing / greater than 60 cm A Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 not available 0 not available 0 5. Pitch stability exiting accelerated flight A Collapse occurs No A No A 6. Pitch stability operating controls during accelerated A flight Collapse occurs No A No A 7. Roll stability and damping A Coscillations Reducing A Ses Stability in gentle spirals A Tendency to return to straight flight Sink rate after two turns 12 m/s to 14 m/s A Behaviour in a steeply banked turn B Sink rate after two turns 12 m/s to 14 m/s A Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in 3 s to 5 s B Dive forward on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A Rocking back less than 45° A Rocking back less than 45	Symmetric control pressure / travel	Increasing / greater than 55 cm	Α	not available	0
Max. weight in flight greater than 100 kg Symmetric control pressure / travel not available 0 not available 0 not available 0 5. Pitch stability exiting accelerated flight A Dive forward angle on exit Dive forward less than 30° A No A Collapse occurs No A No A No A 6. Pitch stability operating controls during accelerated flight A Collapse occurs No A No A No A 7. Roll stability and damping A Coscillations 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 12 m/s to 14 m/s A More than 14 m/s B 10. Symmetric front collapse B Entry Recovery Spontaneous in less than 3 s A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No A No A With accelerator Entry Rocking back less than 45° A Rocking b	Max. weight in flight 80 kg to 100 kg				
Symmetric control pressure / travel not available 0 not available 1 not availa	Symmetric control pressure / travel	not available	0	Increasing / greater than 60 cm	Α
5. Pitch stability exiting accelerated flight Dive forward angle on exit Dive forward less than 30° A No A No A Collapse occurs No A No A No A 6. Pitch stability operating controls during accelerated flight Collapse occurs No A No A No A 7. Roll stability and damping A Oscillations Reducing A Stability in gentle spirals A Tendency to return to straight flight Spontaneous exit A 9. Behaviour in a steeply banked turn B Sink rate after two turns 12 m/s to 14 m/s A More than 14 m/s B 10. Symmetric front collapse Entry Recovery Dive forward 0° to 30° / Keeping course Cascade occurs No A Rocking back less than 45° A Rocking back less than 45° A No A Rocking back less than 45° A Rocking back less than 45° A No A Rocking back less than 45° A Rocking back less than 45° A No A Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 45° A No A With accelerator Entry Rocking back less than 45° A Rocking back less than	Max. weight in flight greater than 100 kg				
Dive forward angle on exit Dive forward less than 30° A Dive forward less than 30° A Reducing A No A N	Symmetric control pressure / travel	not available	0	not available	0
Collapse occurs No A No A No A No A Reducing A Reducin	5. Pitch stability exiting accelerated flight	A			
6. Pitch stability operating controls during accelerated flight Collapse occurs No A No	Dive forward angle on exit	Dive forward less than 30°	Α	Dive forward less than 30°	Α
Collapse occurs No A 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 12 m/s to 14 m/s A More than 14 m/s B Entry Rocking back less than 45° A Rocking back less than 45° A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Cascade occurs No A Rocking back less than 45° A Rocking back less than 45° A No A Rocking back less than 45° A Ro	Collapse occurs	No	Α	No	Α
7. Roll stability and damping Oscillations Reducing Reducing A Replacing A Replacing A Replacing A Replacing A Reducing A Replacing A Replacing A Reducing A Replacing A Replacing A Reducing A Replacing A Re	6. Pitch stability operating controls during accelerated flight	A			
A Reducing	Collapse occurs	No	Α	No	Α
A Spontaneous exit A Spontaneous in 14 m/s B Sink rate after two turns 12 m/s to 14 m/s A More than 14 m/s B Sink rate after two turns A Spontaneous exit A Spontaneous exit A Spontaneous in 14 m/s B Sink rate after two turns A Spontaneous exit A Spontaneous in 14 m/s B Sink rate after two turns A Spontaneous in 14 m/s B Sink rate after two turns A Spontaneous exit A Spont	7. Roll stability and damping	A			
Tendency to return to straight flight Spontaneous exit A More than 14 m/s B More than 14 m/s A Rocking back less than 45° A Rocking back less than 45° A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Cascade occurs No A No A No A Rocking back less than 45°	Oscillations	Reducing	Α	Reducing	Α
9. Behaviour in a steeply banked turn Bink rate after two turns 12 m/s to 14 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 Rocking back less than 45° A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No A No A Rocking back less than 45°	8. Stability in gentle spirals	Α			
Sink rate after two turns 12 m/s to 14 m/s A More than 14 m/s B 10. Symmetric front collapse Entry Rocking back less than 45° Spontaneous in less than 3 s Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A Rocking back less than 45° A Spontaneous in 3 s to 5 s B Dive forward 0° to 30° / Keeping course Cascade occurs No A No A No A Rocking back less than 45°	Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	Α
Entry Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 45° A Spontaneous in 1 ss to 5 s B Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No A No A With accelerator Entry Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 45° A	9. Behaviour in a steeply banked turn				
Entry Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 45° A Recovery Spontaneous in less than 3 s A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course A Dive forward 0° to 30° / Keeping course A No A With accelerator Entry Rocking back less than 45° A Rocking back less than 45° A	Sink rate after two turns	12 m/s to 14 m/s	Α	More than 14 m/s	В
Recovery Spontaneous in less than 3 s A Spontaneous in 3 s to 5 s B Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No A With accelerator Entry Rocking back less than 45° A Rocking back less than 45°	10. Symmetric front collapse	В			
Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping A course Cascade occurs No A No A With accelerator Entry Rocking back less than 45° A Rocking back less than 45° A	Entry	Rocking back less than 45°	Α	<u>.</u>	Α
course course Cascade occurs No A No A With accelerator Entry Rocking back less than 45° A Rocking back less than 45° A	Recovery	·	Α	•	В
With accelerator Entry Rocking back less than 45° A Rocking back less than 45° A	Dive forward angle on exit / Change of course		Α		Α
Entry Rocking back less than 45° A Rocking back less than 45° A	Cascade occurs	No	Α	No	Α
	With accelerator				
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A	Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α

Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
11. Exiting deep stall (parachutal stall)	A			
Deep stall achieved	Yes	Α	Yes	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Cascade occurs	No	Α	No	Α
12. High angle of attack recovery	A			
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	В			
Dive forward angle on exit	Dive forward 30° to 60°	В	Dive forward 30° to 60°	В
Collapse	No collapse	Α	No collapse	Α
Cascade occurs (other than collapses)	No	Α	No	Α
Rocking back	Less than 45°	Α	Less than 45°	Α
Line tension	Most lines tight	Α	Most lines tight	A
14. Asymmetric collapse	B		wost into agric	А
With 50% collapse	В			
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	Α	Less than 90° / Dive or roll angle 15° to 45°	Α
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No	Α	No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	A
With 75% collapse	140		110	^
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No	Α	No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
With 50% collapse and accelerator	140		110	^
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	Less than 90° / Dive or roll angle 15° to 45°	Α
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No	Α	No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
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°	В	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No	Α	No No	A
Twist occurs	No	Α	No	A
Cascade occurs	No	Α	No	A
15. Directional control with a maintained asymmetric	A	~		^
collapse				
Able to keep course	Yes	Α	Yes	Α
180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Amount of control range between turn and stall or spin	More than 50 % of the	Α	More than 50 % of the symmetric	Α
	symmetric control travel		control travel	

16. Trim speed spin tendency	Α			
Spin occurs	No	Α	No	Α
17. Low speed spin tendency	A			
Spin occurs	No	Α	No	Α
18. Recovery from a developed spin	Α			
Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Cascade occurs	No	Α	No	Α
19. B-line stall	A			
Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Behaviour before release	Remains stable with straight span	Α	Remains stable with straight span	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Cascade occurs	No	Α	No	Α
20. Big ears	Α			
Entry procedure	Standard technique	Α	Standard technique	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	A			
Entry procedure	Standard technique	Α	Standard technique	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Α	Stable flight	Α
22. Behaviour exiting a steep spiral	A			
Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	Α
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
Sink rate when evaluating spiral stability [m/s]	14		18	
23. Alternative means of directional control	A			
180° turn achievable in 20 s	Yes	Α	Yes	Α
Stall or spin occurs	No	Α	No	Α
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	"light pilot under Air Turquoise supervision" "Leichter Testpilot unter Aufsicht von Air Turquoise"			