Certification number

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AIR TURQUOISE SA certified by

## Flight test report: EN

**Onika Paragliders** 

Manufacturer



Address	São Pedro de Alcântara 3980 Magalhães Bastos , Rio de Janeiro Rio - RJ Brazil	Date of flight test	30. 01. 2012
Representative	None	Place of test	Villeneuve
Glider model	Yumi 2 L	Classification	D

Test pilot   Thurnheer Claude   Harness   Advance - Progress M   Ainwave - GT II M	Trimmer	no				
Name						
		Test pilot	Thurnheer Claude		Zoller Alain	
Committee   Comm		Harness	Advance - Progress M		Airwave - GT II M	
Committee   Comm		Total weight in flight (kg)	105		120	
Special take off technique required No No A No No A No A No A Special landing technique required No No A No No A Special landing technique required No No A No A No A Special landing technique required No No A No A No A Special landing technique required No No A No A Special landing technique required No No A No A No A Special landing technique required No No A No A No A Special landing technique required No No A No A No A No A Special landing technique required B No	1. Inflation/Take-off	3 4 3 7			-	
Special landing technique required No A No A No A No A Special landing technique required No A Special landing technique required No A Special landing technique required B B S ST WITHING SPECIAL SPE	Rising behaviour			С		С
Special landing technique required         No         A         No         A           3. Speed in straight flight         B         F           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           Allinimum speed         25 km/h to 30 km/h         B         25 km/h to 30 km/h         B         25 km/h to 30 km/h         B           4. Control movement         C         C         Wax. weight in flight up to 80 kg         Versumetric control pressure I travel         not available         0         not available         0           Symmetric control pressure I travel         not available         0         not available         0           Max. weight in flight greater than 100 kg         Symmetric control pressure I travel         Increasing / 50 cm to 65 cm         C         Increasing / 50 cm to 65 cm         C           Symmetric control pressure I travel         Increasing / 50 cm to 65 cm         C         Increasing / 50 cm to 65 cm         C           Symmetric control pressure I travel         Increasing / 50 cm to 65 cm         C         Increasing / 50 cm to 65 cm         C           Symmetric control pressure I travel         A         No         No	Special take off technique r	required	No	Α	No	Α
3. Speed in straight flight Trim speed more than 30 km/h Speed range using the controls larger than 10 km/h Yes A No Indianal Yes A Stability in gentle spirals A A Yes A Nore than 14 m/s B Sink rate after two turns A Secovery A Recovery A Rocking back less than 45° A Rocking back less than 3° A Dive forward 30° to 60° / Keeping course Cascade occurs No A No A No A No A No A With accelerator	2. Landing		Α			
Trim speed more than 30 km/h  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 30 km/h to 40 km/h  B 30 km/h	Special landing technique re	equired	No	Α	No	Α
Speed range using the controls larger than 10 km/h   Yes   A   Yes   A   A   No   A	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         C           Max. weight in flight up to 80 kg         Symmetric control pressure / travel         not available         0 not available         0 not available         0           Symmetric control pressure / travel         not available         0 not available         0 not available         0           Max. weight in flight greater than 100 kg         Increasing / 50 cm to 65 cm         C Increasing / 50 cm to 65 cm         C Increasing / 50 cm to 65 cm         C           Symmetric control pressure / travel         Increasing / 50 cm to 65 cm         C Increasing / 50 cm to 65 cm         C         C           Max. weight in flight greater than 100 kg         A         A         Dive forward less than 30°         A         Dive forward less than 30°         A         Dive forward less than 30°         A         No         A           Collapse occurs         No         A         No         A         No         A           Collapse occurs         No         A         No         A         No         A           Collapse occurs         No         A         No         A         No         A           Collapse occurs         No         A	Trim speed more than 30 ki	m/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  Increasing / 50 cm to 65 cm  C Increasing / 50 cm t	Speed range using the conf	trols larger than 10 km/h	Yes	Α	Yes	Α
Max. weight in flight up to 80 kg  Symmetric control pressure / travel not available 0 not ava	Minimum speed		25 km/h to 30 km/h	В	25 km/h to 30 km/h	В
Symmetric control pressure / travel not available 0 not availa	4. Control movement		C			
Max. weight in flight 80 kg to 100 kg  Symmetric control pressure / travel not available 0 not available 0 not available 0  Max. weight in flight greater than 100 kg  Symmetric control pressure / travel Increasing / 50 cm to 65 cm C Increasing / 50 cm to 65 cm C  5. Pitch stability exiting accelerated flight A  Dive forward less than 30° A 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  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 More than 14 m/s B More than 14 m/s B  10. Symmetric front collapse C  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  Cascade occurs No A No A No A No A With accelerator	Max. weight in flight up to 8	80 kg				
Symmetric control pressure / travel not available 0 not availa	Symmetric control pressure	e / travel	not available	0	not available	0
Max. weight in flight greater than 100 kg  Symmetric control pressure / travel	Max. weight in flight 80 kg t	to 100 kg				
Symmetric control pressure / travel Increasing / 50 cm to 65 cm C Increasing / 50 cm to 65 cm C S. Pitch stability exiting accelerated flight A Dive forward angle on exit Dive forward less than 30° A No A N	Symmetric control pressure	e / travel	not available	0	not available	0
5. Pitch stability exiting accelerated flight Dive forward angle on exit Dive forward less than 30° A Dive forward less than 30° 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 Reducing A Reducing A Reducing A Reducing A Reducing A Spontaneous exit A Spontaneous exit A 9. Behaviour in a steeply banked turn Sink rate after two turns More than 14 m/s B A Recovery Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No A With accelerator	Max. weight in flight greater	r than 100 kg				
Dive forward angle on exit  Collapse occurs  No  No  A  No  A  No  A  No  A  Collapse occurs  No  A  Collapse occurs  No  A  A  Collapse occurs  No  A  A  Collapse occurs  No  A  A  Collapse occurs  No  A  Collapse occurs  No  A  Collapse occurs  No  A  Collapse occurs  A  Collapse occurs  No  A  Collapse occurs  A  Collapse occurs  No  A  Collapse occurs  A  Collapse occurs  A  Collapse occurs  A  Collapse occurs  No  A  Collapse occurs  A  Reducing  A  Reducing  A  Reducing  A  Spontaneous exit  A  Solute than 14 m/s  B  Collapse  Col	Symmetric control pressure	e / travel	Increasing / 50 cm to 65 cm	С	Increasing / 50 cm to 65 cm	С
Collapse occurs  A 6. Pitch stability operating controls during accelerated flight  Collapse occurs  No A No A No A No A No A No A  7. Roll stability and damping A Oscillations  Reducing A Reducing A Reducing A Spontaneous exit A Spontaneous	5. Pitch stability exiting a	ccelerated flight	Α			
6. Pitch stability operating controls during accelerated flight  Collapse occurs  No  No  A  7. Roll stability and damping  Oscillations  Reducing  A  Reducing  A  Spontaneous exit  A  Tendency to return to straight flight  Spontaneous exit  B  Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  C  Entry  Recovery  Recovery  Dive forward angle on exit / Change of course  Cascade occurs  No  A  Recovery  A  Recovery  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A  Recovery  Recovery  Cascade occurs  No  Recovery  Recovery  Recovery  Recovery  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A  No  A  No  A  No  A  No  A  Recovery  Re	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 Reducing A R	Collapse occurs		No	Α	No	Α
7. Roll stability and damping  Oscillations  Reducing  Reducing  A  Recovery  B  Ropontaneous exit  A  Recovery  Rocking back less than 14 m/s  B  Recovery  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  Cascade occurs  No  Rocking  A  No  A  No  A  Reducing  A  Spontaneous exit  A  A  Spontaneous exit  A  A  Spontaneous exit  A  Reducing  A  Spontaneous exit  A  Reducing  A  Spontaneous exit  A  Reducing		g controls during accelerated	Α			
Oscillations Reducing A 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 More than 14 m/s B More than 14 m/s B  10. Symmetric front collapse C  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  Cascade occurs No A No A No A  With accelerator	Collapse occurs		No	Α	No	Α
8. Stability in gentle spirals  Tendency to return to straight flight  Spontaneous exit  A Spontaneous exit  A Spontaneous exit  A  9. Behaviour in a steeply banked turn  B  Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  C  Entry  Rocking back less than 45°  A 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  Cascade occurs  No  A No  A No  A  With accelerator	7. Roll stability and damp	ing	Α			
Tendency to return to straight flight  9. Behaviour in a steeply banked turn  8 Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  Entry  Recovery  Spontaneous exit  A Spontaneous	Oscillations		Reducing	Α	Reducing	Α
9. Behaviour in a steeply banked turn  Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  C  Entry  Recovery  Spontaneous in 3 s to 5 s  Dive forward angle on exit / Change of course  Cascade occurs  No  No  A  No  More than 14 m/s  B  More than 14 m/s  B  More than 14 m/s  B  A  Rocking back less than 45°  A  Rocking back less than 45°  A  Dive forward 30° to 60° / Keeping course  Cascade occurs  No  A  No  A  No  A  No  A	8. Stability in gentle spira	ls	Α			
Sink rate after two turns  More than 14 m/s  B More than 14 m/s  B  10. Symmetric front collapse  C  Entry  Rocking back less than 45°  A Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A No  A With accelerator	Tendency to return to straig	ght flight	Spontaneous exit	Α	Spontaneous exit	Α
10. Symmetric front collapse  Entry  Rocking back less than 45°  Spontaneous in 3 s to 5 s  Dive forward angle on exit / Change of course  Cascade occurs  No  A Rocking back less than 45°  A Rocking back less than 45°  A Poive forward 30° to 60° / Keeping course  A Dive forward 30° to 60° / Keeping course  A No  A With accelerator	9. Behaviour in a steeply	banked turn	В			
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 30° to 60° / Keeping course B Cascade occurs No A No A With accelerator				В	More than 14 m/s	В
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 Cascade occurs No A With accelerator  Spontaneous in 3 s to 5 s B Spontaneous in less than 3 s A Dive forward 30° to 60° / Keeping course  A No A With accelerator	10. Symmetric front collap	pse	С			
Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A  Dive forward 30° to 60° / Keeping course  B  With accelerator	Entry		•	Α		Α
course course  Cascade occurs  No A No A  With accelerator	Recovery		•	В	•	Α
With accelerator	Dive forward angle on exit /	Change of course		Α		В
	Cascade occurs		No	Α	No	Α
Entry Rocking back greater than 45° C Rocking back less than 45° A	With accelerator					
	Entry		Rocking back greater than 45°	С	Rocking back less than 45°	Α

Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in 3 s to 5 s	В
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping	A	Dive forward 0° to 30° / Keeping	A
Enterior ward unigite on exact enange of course	course	, ,	course	, ,
Cascade occurs	No	Α	No	Α
11. Exiting deep stall (parachutal stall)	Α			
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	Α			
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	Α
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° 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				
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 45° to 60°	С
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				
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 75% collapse and accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 45° to 60°	С	$90^{\circ}$ to $180^{\circ}$ / Dive or roll angle $60^{\circ}$ to $90^{\circ}$	С
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
15. Directional control with a maintained asymmetric collapse	A			
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 symmetric control travel	Α	More than 50 % of the symmetric control travel	Α

16. Trim speed spin tendency	Α			
Spin occurs	No	Α	No	Α
17. Low speed spin tendency	D			
Spin occurs	No	Α	Yes	D
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	С			
Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Behaviour before release	Remains stable without straight span	С	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	В			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in 3 s to 5 s	В	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	В			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Recovery through pilot action in less than a further 3 s	В	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	D			
Tendency to return to straight flight	Turn remains constant	D	Turn remains constant	D
Turn angle to recover normal flight	With pilot action	D	With pilot action	D
Sink rate when evaluating spiral stability [m/s]	20		28	
23. Alternative means of directional control	Α			
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				