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_0722.2013
Address	2, Queens Drive LA46LN . UK	Date of flight test	28. 06. 2013
Representative	None	Place of test	Villeneuve
Glider model	LM5 S	Classification	D
Trimmer	no		

Test pilot	Test pilot Dupont Philippe		Thurnheer Claude	
Harness			Niviuk Gliders - Hamak 2 ligh	nt
Total weight in flight (kg)	70		85	
1. Inflation/Take-off	С			
Rising behaviour	Overshoots, shall be slowed down to avoid a front collapse	С	Overshoots, shall be slowed down to avoid a front collapse	С
Special take off technique required	No	Α	No	Α
2. Landing	A			
Special landing technique required	No	Α	No	Α
3. Speed in straight flight	A			
Trim speed more than 30 km/h	Yes	Α	Yes	Α
Speed range using the controls larger than 10 km/h	Yes	Α	Yes	Α
Minimum speed	Less than 25 km/h	Α	Less than 25 km/h	Α
4. Control movement	С			
Max. weight in flight up to 80 kg				
Symmetric control pressure / travel	Increasing / greater than 55 cm	Α	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	С
Max. weight in flight greater than 100 kg				
Symmetric control pressure / travel	not available	0	not available	0
5. Pitch stability exiting accelerated flight	Α			
Dive forward angle on exit	Dive forward less than 30°	Α	Dive forward less than 30°	Α
Collapse occurs	No	Α	No	Α
6. Pitch stability operating controls during accelerated flight	A			
Collapse occurs	No	Α	No	Α
7. Roll stability and damping	Α			
Oscillations	Reducing	Α	Reducing	Α
8. Stability in gentle spirals	A			
Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	Α
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 collapse	В			
Entry	Rocking back less than 45°	Α	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 course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
With accelerator				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α

Dive forward angle on exit / Change of course   Dive forward 0° to 30° / Keeping   Course Course   Dive forward 0° to 30° / Keeping   Course Course   Dive forward 0° to 30°   Dive forward 0° to	Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in less than 3 s	Α
Description	Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping	Α	·	В
1. Exiting deep stall (parachutal stall)		course			
Deep Stall achieved         Yes         A         Yes         A         Post of Po			Α	No	Α
Recovery				V	
Dive forward only on control or 201"   A   Dive forward 0" to 301"   A   Change or course   A   Change or course   A   Change or course   A   No   A   No   A   A					
Changing course less than 45"   A Changing course less than 45"   A Cascade occurs   No					
Caseade occurs         No         A         No         A           72. High angle of attack recovery         Spontaneous in less than 3 s         A         Spontaneous in less than 3 s         A         No         Collapse         A         No         No         No         No         No         No         No					
12 High angle of attack recovery   Spontaneous in less than 3 s   No   No   No   No   No   No   No					
Recovery			А	NO	А
Cascade occurs         No         A         No         A           13. Recovery from a developed full stall         A           Dive forward 0" to 30"         A         Dive forward 0" to 30"         A           Collapse         No         No collapse         A         No collapse         A           Cascade occurs (other than collapses)         No         A         No collapse         A           Line tension         Most lines tight         A         Less than 45"         A         Less than 45"         A           Line tension         C         C         With 50% collapse         C         With 50% collapse           Change of course until re-inflation / Maximum dive forward of a langle         Less than 90" / Dive or roll angle         A         Less than 90" / Dive or roll angle         A           Re-inflation behaviour         Less than 380"         A         No         A         No         A           Calcapse on the opposite side occurs         No         A         No         A         No         A           Callapse on the opposite side occurs         No         A         No			٨	Chantanagua in losa than 2 a	۸
13.   Recovery from a developed full stall   Dive forward 0" to 90"   A   Dive forward 0" to 30"   A   Cascade occurs (other than collapses)   No   No   No   No   No   No   No   N	•	·		•	
Dive forward angle on exit			A	INO	A
Collapse   No collapse   A No collapse   A No collapse   A Cascade occurs (other than collapses)   No collapse   Cascade occurs (other than collapse of course until re-inflation / Maximum diver forward or langle of course until re-inflation / Maximum diver forward or langle of course until re-inflation / Maximum diver forward or langle of course until re-inflation / Maximum diver forward or langle of course   No collapse of course   No collapse of course   No collapse   A			۸	Dive ferward 0° to 30°	۸
Rocking back   Less than 45°   A   Less than					
Rocking back   Less than 45°					
Line tension         Most lines tight         A         Most lines tight         A         Most lines tight         A           14. Asymmetric collapse         C         C         C         V					
14. Asymmetric collapse         C           With 50% collapse         Less than 90° / Dive or roll angle of 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A           Re-inflation behaviour         Spontaneous re-inflation         A         Spontaneous re-inflation         A           Collapse on the opposite side occurs         No         A         No         A           Collapse on the opposite side occurs         No         A         No         A           Cascade occurs         No         A         No         A           Cascade occurs         No         A         No         A           Cascade occurs         No         A         No         A           Change of course until re-inflation / Maximum dive forward or langle 45° to 60°         C         90° to 180° / Dive or roll angle 15° to 45°         B           Re-inflation behaviour         Spontaneous re-inflation         A         Spontaneous re-inflation         A           Collapse on the opposite side occurs         No         A         No         A           Collapse on the opposite side occurs         No         A         No         A           Collapse on the opposite side occurs         No         A         No         A         No					
With 50% collapse         Auth 50% collapse         Change of course until re-inflation / Maximum dive forward or loil angle of langle of course until re-inflation / Maximum dive forward or loil angle of course         Less than 90° / Dive or roll angle 15° to 45°         A Less than 360° by 15° to 15° to 45°         A Spontaneous re-inflation         A Spontaneous re-inflation         A Spontaneous re-inflation         A No         A No         A No         A No         A Wo			А	Most mics agrit	
Change of course until re-inflation / Maximum dive forward or foil angle of to 15° t					
Re-inflation behaviour Total change of course Less than 360° A No No A No A No A Cascade occurs No No A No No A No A No A Cascade occurs No No A No No A No A No A No A Cascade occurs No No No A No No A No A No A No A No A	Change of course until re-inflation / Maximum dive forward or		Α		Α
Collapse on the opposite side occurs	Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
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         C         90° to 180° / Dive or roll angle to 45° to 60°         B           Re-inflation behaviour         Spontaneous re-inflation         A         Spontaneous re-inflation         A           Total change of course         No         A         No         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         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 360°         A         No         A	Total change of course	Less than 360°	Α	Less than 360°	Α
Cascade occurs         No         A         No         A           With 75% collapse         Change of course until re-inflation / Maximum dive forward or loil angle of langle of course until re-inflation / Maximum dive forward or loil angle of course         90° to 180° / Dive or roll angle at5° 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         No         A         No         A           Change of course until re-inflation / Maximum dive forward or langle and accelerator         Less than 90° / Dive or roll angle 15° to 45°         A         Less than 90° / Dive or roll angle 15° to 45°         A           Re-inflation behaviour         Spontaneous re-inflation         A         No         A         No         A           Cilapse on the opposite side occurs         No         A         No         A         No         A           With 75% colla	Collapse on the opposite side occurs	No	Α	No	Α
With 75% collapse         Change of course until re-inflation / Maximum dive forward or loll angle (45° to 60° to 180° / Dive or roll angle 45° to 60° 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       Less than 90° / Dive or roll angle 15° to 45°       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         Change of course until re-inflation / Maximum dive forward or roll angle 15° to 90°       Yes       B         Change of course until re-inflation / Maximum dive forward or roll an	Twist occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or roll angle 45° to 60° so to 180° / Dive or roll angle 15° to 45° so to 60° so to 45° to 45° so to 60° so to 45° to 45° so to 60° so to 180° / Dive or roll angle 15° to 45° so to 180° / Dive or roll angle 15° to 180° / Dive or roll angle 15	Cascade occurs	No	Α	No	Α
roll angle         45° to 60°         to 45°           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         Less than 90° / Dive or roll angle 15° to 45°         To 45°         To 45°           Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45°         Less than 90° / Dive or roll angle 15° to 45°         To 45°         To 45°           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           Cascade occurs         No         A No         A           Cascade occurs         No         A No         A           Chapse of course until re-inflation / Maximum dive forward or roll angle of 0° to 90°         To 50° to 180° / Dive or roll angle of 0° to 90°         To 45°	With 75% collapse				
Total change of course  Less than 360° A Less than 360° A No			С		В
Collapse on the opposite side occurs  No No A No A No No A No A No A No A N	Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Twist occurs No A No A No A No A No A With 50% collapse and accelerator  Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45°	Total change of course	Less than 360°	Α	Less than 360°	Α
Cascade occurs  With 50% collapse and accelerator  Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45°  Re-inflation behaviour  Total change of course  No  No  A  Less than 90° / Dive or roll angle 15° to 45°  Spontaneous re-inflation  A  Less than 360°  A  No  A  No  A  Twist occurs  No  No  A  No  A  With 75% collapse and accelerator  Change of course until re-inflation / Maximum dive forward or roll angle 60° to 180° / Dive or roll angle 60° to 90°  Spontaneous re-inflation  A  Total change of course until re-inflation / Maximum dive forward or roll angle 60° to 90°  Spontaneous re-inflation  A  Collapse on the opposite side occurs  No  A  Collapse  A  Collapse  A  Collapse  A  Collapse  A  A  More than 50 % of the symmetric  A  A  More than 50 % of the symmetric  A  Collapse	Collapse on the opposite side occurs	No	Α	No	Α
With 50% collapse and accelerator         Change of course until re-inflation / Maximum dive forward or roll angle angle       Less than 90° / Dive or roll angle 15° to 45°       A Less than 90° / Dive or roll angle 15° to 45°       A Less than 90° / Dive or roll angle 15° to 45°       A Less than 90° / Dive or roll angle 15° to 45°       A Less than 90° / Dive or roll angle 15° to 45°       A Spontaneous re-inflation       A Spontaneous re-inflation       A Less than 360°       A Less than 360°       A Less than 360°       A No       A No <td>Twist occurs</td> <td>No</td> <td>Α</td> <td>No</td> <td>Α</td>	Twist occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45° 15° to 45° 25° 25° 25° 25° 25° 25° 25° 25° 25° 2	Cascade occurs	No	Α	No	Α
roll angle 15° to 45°	With 50% collapse and accelerator				
Total change of course  Collapse on the opposite side occurs  No  No  A  Twist occurs  No  No  A  Total change of course  No  No  A  No  A  No  A  Twist occurs  No  No  A  No  A  Total change of course  No  No  A  No  A  Total change of course until re-inflation / Maximum dive forward or roll angle of course until re-inflation / Maximum dive forward or roll angle  Re-inflation behaviour  Spontaneous re-inflation  A  Total change of course  Less than 360°  A  Less than 360°  A  Spontaneous re-inflation  A  Total change of course  Less than 360°  A  Less than	•		Α		Α
Collapse on the opposite side occurs  No No A No A No A No A No A No A Cascade occurs No No A	Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Twist occurs  No  No  A  No  No	Total change of course	Less than 360°	Α	Less than 360°	Α
Cascade occurs  With 75% collapse and accelerator  Change of course until re-inflation / Maximum dive forward or roll angle for to 45°  Re-inflation behaviour  Total change of course  Less than 360°  A Spontaneous re-inflation  A Spontaneous re-inflation  A Collapse on the opposite side occurs  No  A No	Collapse on the opposite side occurs	No	Α	No	Α
With 75% collapse and accelerator  Change of course until re-inflation / Maximum dive forward or roll angle of course until re-inflation / Maximum dive forward or roll angle foo to 90° to 180° / Dive or roll angle to 45°  Re-inflation behaviour  Spontaneous re-inflation  A Spontaneous re-inflation  A Collapse of course  Less than 360°  A Less than 360°  A Collapse on the opposite side occurs  No  A No  A No  A No  A Spontaneous re-inflation  A Cascade occurs  No  A No	Twist occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or roll angle followed to 180° / Dive or roll angle followed to 45°.  Re-inflation behaviour  Total change of course  Collapse on the opposite side occurs  No  No  No  A  Cascade occurs  No  No  A  Cascade occurs  A  Collapse  A  Collapse  A  Collapse  A  Collapse  A  Cascade occurs  No  A  Cascade occurs  A  Collapse  A  Collapse  A  Collapse  A  Collapse  A  Collapse  A  Control with a maintained asymmetric collapse  A  180° turn away from the collapsed side possible in 10 s  A  More than 50 % of the symmetric  A	Cascade occurs	No	Α	No	Α
roll angle 60° to 90° to 45°  Re-inflation behaviour Spontaneous re-inflation A Spontaneous re-inflation A Collapse 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 No A Cascade occurs No A No A No A Cascade occurs No A No	•				
Total change of course  Collapse on the opposite side occurs  No  No  A  No  A  No  A  No  A  Twist occurs  No  No  A  No  A  No  A  Cascade occurs  No  No  A  No  A  No  A  Total change of course  No  A  No  A  No  A  No  A  Twist occurs  No  A  No  A  No  A  Total change of course  No  A  No  A  No  A  No  A  Twist occurs  No  A  No  A  Total change of course  No  A  No  A  No  A  No  A  Total change of course  No  A  Total change of course  No  A  No  A  No  A  No  A  No  A  Total change of course  No  A  No  No		•	С		В
Collapse on the opposite side occurs  No A No A No A No A No A No A Cascade occurs No A No A No A No A  15. Directional control with a maintained asymmetric collapse A A No A  A No A No A No A No A No A N		•	Α	·	Α
Twist occurs  No A No	-		Α		
Cascade occurs  No A No A No A No A  15. Directional control with a maintained asymmetric collapse  Able to keep course  Yes A Yes A 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  More than 50 % of the A More than 50 % of the symmetric A					
15. Directional control with a maintained asymmetric collapse  Able to keep course  Able to keep course  Yes  A  Yes  A  Yes  A  Yes  A  A  Amount of control range between turn and stall or spin  More than 50 % of the  A  More than 50 % of the symmetric  A					
collapse  Able to keep course  Able to keep course  Yes  A Yes  A 180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  More than 50 % of the  A More than 50 % of the symmetric  A			Α	No	Α
Able to keep course Yes A Yes A 180° turn away from the collapsed side possible in 10 s Yes A Yes A More than 50 % of the More than 50 % of the symmetric A		A			
Amount of control range between turn and stall or spin More than 50 % of the A More than 50 % of the symmetric A		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		Α		Α

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	0			
Change of course before release	not available	0	not available	0
Behaviour before release	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
Cascade occurs	not available	0	not available	0
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	Recovery through pilot action in less than a further 3 s	В
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	Recovery through pilot action in less than a further 3 s	В
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]	19		21	
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	Symmetrischer Frontklapper und einseitiger Klapper wurden mit Faltleinen getestet.		Tested with "Folding Lines" for front & asymetric collapses	