## AIR TURQUOISE SA | PARA-TEST.COM

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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

Approximately 30 % chord



Flight test rep	ort: EN 926-2:2013	& NfL 2-565-20			
Manufacturer	Sol Paragliders	Certification number	F	PG_1837.2021	
Address	Rua Walter Marquardt, 1180 cp 370 89259-565 Jaraguà do Sul, S.C. Brazil	Flight test	0	3.05.2021	
Glider model	Atmus 3 L	Classification	Е	3	
Serial number	23.368	Representative	Ν	None	
Trimmer	no	Place of test	V	/illeneuve	
Folding lines used	no				
Test pilot		Claude Thurnheer	Δ	Alexandre Jofresa	
Harness		Advance - Success 4 M	S	Supair - Evo XC 3 M	
Harness to risers d	istance (cm)	44		44	
Distance between r	· · ·	44	-	48	
	` '	95		110	
Total weight in fligi	it (kg)	95	ı	10	
1. Inflation/Take-off		Α			
Rising behaviour		Smooth, easy and constant rising	Α	Smooth, easy and constant rising	Α
Special take off technique	e required	No	Α	No	Α
2. Landing		A			
Special landing technique	required	No	Α	No	Α
3. Speed in straight flight	nt	Α			
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		Α			
Max. weight in flight up to 80 kg					
Symmetric control pressure / travel		not available	0	not available	0
Max. weight in flight 80 kg to 100 kg					
Symmetric control pressure / travel		Increasing / greater than 60 cm	Α	not available	0
Max. weight in flight greater than 100 kg			•		
Symmetric control pressu		not available	0	Increasing / greater than 65 cm	Α
5. Pitch stability exiting accelerated flight		A Dive forward less than 30°	Α	Dive forward less than 30°	۸
Dive forward angle on exit		No		No	A A
Collapse occurs  6. Pitch stability operatiflight	ng controls during accelerated	A	^	NU	A
Collapse occurs		No	Α	No	Α
7. Roll stability and damping		Α			
Oscillations		Reducing	Α	Reducing	Α
8. Stability in gentle spir	rals	A			
Tendency to return to straight flight		Spontaneous exit	Α	Spontaneous exit	Α
9. Behaviour exiting a fully developed spiral dive		A			
Initial response of glider (first 180°)		Immediate reduction of rate of turn	Α	Immediate reduction of rate of turn	Α
Tendency to return to straight flight		Spontaneous exit (g force decreasing, rate of turn decreasing)	Α	Spontaneous exit (g force decreasing, rate of turn decreasing)	Α
Turn angle to recover normal flight		Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
10. Symmetric front coll	10. Symmetric front collapse				

Entry					
Dive forward angle on exit Change of course   No   No   A   No   No   No   No   No	Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Conscade occurs	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
February   Recovery   Recovery   Spontaneous in a set of set occurse   Recovery   Spontaneous in a set of set occurse   Recovery	Dive forward angle on exit Change of course		Α		Α
A test 50% chord	Cascade occurs	No	Α	No	Α
Entry   Rocking back less than 45"   A Rocking back less than 45"   A Rocking back less than 45"   A Rocking back less than 35   A Rocking back less than 45"   A Rocking back less than 45	Folding lines used	No		No	
Recovery   Spontaneous in a s to 5 s   B   Spontaneous in less than 3 s   A   Chascade occurs   No	At least 50% chord				
Recovery   Spontaneous in a s to 5 s   B   Spontaneous in less than 3 s   A   Chascade occurs   No	Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Dive forward only course outsit / Change of course outside occurse outside occ	•	<u> </u>		•	
Cascade occurs   No	•	'		•	
Folding lines used With accolerator Entry Rocking back less than 45"	Bive forward drigle on exity change of course		, ,	· •	,,
With accelerator   Entry   Rocking back less than 45"   A Rocking back less than 45"   A Spontaneous in less than 3	Cascade occurs	No	Α	No	Α
With accelerator   Entry   Recovery   Spontaneous in less than 45"   A Spontaneous in 18 s to 5 s   A Spontaneous in less than 3 s   A Spontaneous in 18 s to 5 s   A No	Folding lines used	No		No	
Entry   Rocking back less than 45"   A Spontaneous in 3 s to 5   B S Dive forward or 16 30" / Keeping ourse   A Dive forward 0" to 30" / Keeping ourse   A Dive forward 0" to 30" / Keeping ourse   A Dive forward 0" to 30" / Keeping ourse   A No	-				
Recovery   Spontaneous in less than 3 s   A   Spontaneous in 3 s to 5 s   B   Dive forward angle on exit / Change of course   No   A   No   A   No   No		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   Cascade occurs   No	· ·	<u>*</u>		•	
Cascade occurs No	•	•			
Folding lines used   No	•	course		course	
The Exiting deep stall (parachutal stall)	Cascade occurs	No	Α	No	Α
Deep stall achieved   Yes	Folding lines used	No		No	
Recovery Dive forward angle on exit Dive forward or 'to 30° Change of course Changing course less than 45° No A Change of course Changing course less than 45° No A Changing course less than 45° No A Changing course less than 45° A Collapse A Collapse A No A Collapse A Cascade occurs A No Collapse A Cascade occurs (other than collapses) No Change of course until re-inflation / Maximum dive forward or less than 45° A Changing course less than 45° A Cascade occurs A No Collapse B Small asymmetric collapse  Collapse Collapse Change of course Less than 45° A Collapse on the opposite side occurs No Collapse on the opposite side occurs N	11. Exiting deep stall (parachutal stall)	Α			
Dive forward angle on exit Change of course Changing course less than 45" A No  12. High angle of attack recovery A Recovery A Spontaneous in less than 3 s A Operation of the course of	Deep stall achieved	Yes	Α	Yes	Α
Changing course less than 45° A Changing course less than 45° A RO Cascade occurs  No A No A No A No A No A Recovery  ARecovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A not available 0  13. Recovery From a developed full stall Dive forward or to 30° A not available 0  13. Recovery Spontaneous in less than 3 s A No collapse Shand 3 s A No collapse Shand 3 s A No collapse B Small asymmetric collapse  Change of course until re-inflation / Maximum dive forward or roll angle of course Collapse on the opposite side occurs  Change of course until re-inflation / Maximum dive forward or roll angle Isary Boundaries Shand Shan	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs A 12. High angle of attack recovery A Recovery A Recovery A Recovery A Recovery A Cascade occurs No No A A A A A A A A A A Bontaneous in less than 3 s A A Bontaneous in less than 3 s A A Cascade occurs No A A Dive forward d angle on exit Collapse  Collapse  Collapse  Collapse  Collapse  Collapse  Collapse  B Collapse  Change of course until re-inflation / Maximum dive forward or collapse occurs Collapse on the opposite side occurs  No Collapse on the opposite side occurs  No Cascade occurs  No Cascade occurs  No Collapse  Change of course until re-inflation / Maximum dive forward or collapse cells with a spontaneous re-inflation  Total change of course until re-inflation / Maximum dive forward or collapse cells with a spontaneous re-inflation  Twist occurs  No Cascade occurs  Change of course until re-inflation / Maximum dive forward or collapsed cells with a spontaneous re-inflation  Total change of course  Change of course until re-inflation / Maximum dive forward or collapsed cells with a spontaneous re-inflation  Total change of course  Change of course until re-inflation / Maximum dive forward or collapsed cells with a spontaneous re-inflation  Total change of course  Change of course until re-inflation / Maximum dive forward or collapsed cells with a spontaneous re-inflation  Total change of course  Change of course until re-inflation / Maximum dive forward or collapsed cells with a spontaneous re-inflation  A Cascade occurs  No Collapse on the opposite side occurs  No Coll	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Cascade occurs A 12. High angle of attack recovery A Recovery A Recovery A Recovery A Cascade occurs A No A A A A A A A A A A A A A A A B B B B	Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Recovery Spontaneous in less than 3 s A Cascade occurs  No A not available O A Not available O A Not available O A Dive forward 0* to 30° A Dive forward 0* to 30° A Dive forward 0* to 30° A Not collapse O A Not collapse B A Not collapse Change of course until re-inflation / Maximum dive forward or roll angle 0° to 15° Spontaneous re-inflation A Spontaneous re-inflation A Spontaneous re-inflation A Spontaneous re-inflation A Not Coronly a small number of collapse dells with a spontaneous re-inflation)  Twist occurs No No A No			Α		Α
Recovery Cascade occurs No A Spontaneous in less than 3 s A Cascade occurs No A not available 0  13. Recovery from a developed full stall A Dive forward angle on exit Dive forward 0* to 30* A Dive forward 0* to 30* A Collapse No collapse No collapse A No collapse B Small asymmetric collapse  Banali asymmetric collapse B Small asymmetric collapse B Small asymmetric collapse Course until re-inflation / Maximum dive forward or roll angle 0* to 15* Spontaneous re-inflation A Spontaneous re-inflation A No (or only a small number of collapse on the opposite side occurs No (or only a small number of collapse Collapse Course Until re-inflation / Maximum dive forward or Poll angle 15* to 45* No (or only a small number of collapse course until re-inflation / Maximum dive forward or Poll angle 15* to 45* No (or only a small number of collapse course Until re-inflation / Maximum dive forward or Collapse asymmetric collapse Collapse (or until re-inflation / Maximum dive forward or Poll angle 15* to 45* No (or only a small number of collapse on the opposite side occurs No (or only a small number of collapse or until re-inflation / Maximum dive forward or Collapse asymmetric collapse (or until re-inflation / Maximum dive forward or Collapse asymmetric collapse (or until re-inflation / Maximum dive forward or Collapse or the opposite side occurs No (or only a small number of collapse or until re-inflation / Maximum dive forward or Collapse or the opposite side occurs No (or only a small number of collapsed cells with a spontaneous re-inflation (or or o	12. High angle of attack recovery				
Cascade occurs  No A not available 0  13. Recovery from a developed full stall Dive forward angle on exit Collapse No collapse No collapse No collapse A No collapse B Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle or collapse c		Spontaneous in less than 3 s	Δ	Spontaneous in less than 3 s	Δ
Dive forward angle on exit   Dive forward 0° to 30°   A   Dive forward 0° to 30°   A   Collapse   No collapse   A   No	•	·		•	
Dive forward ongle on exit Collapse No collapse No collapse No collapse No collapse No collapse A Less than 45° A No (or only a small number of collapsed cells with a spontaneous reinflation) A No (or only a small number of collapsed of course until re-inflation / Maximum dive forward or roll angle 15° to 45° A Less than 45° A Less than 45° A No (or only a small number of collapsed cells with a spontaneous re-inflation A Less than 360° A Less than 40° / Dive or roll angle 15° to 45° A Less than 45° A No (or only a small number of collapsed cells with a spontaneous re-inflation A Less than 360° A Less than 360° A Less than 40° / Dive or roll angle 15° to 45° A No (or only a small number of collapsed cells with a spontaneous re-inflation A Less than 360° A Less than 360° A Less than 40° / Dive or roll angle 15° to 45° A Less than 40° / Dive or roll angle 15° to 45° A No (or only a small number of collapsed cells with a spontaneous re-inflation A Less than 40° A No (or only a small number of collapsed cells with a spo				not available	
Collapse No collapse A No collapse A No collapse A Cascade occurs (other than collapses) No A No A No A No A No A Rocking back Less than 45° A Most lines tight A M			۸	Diversional 0° to 20°	۸
Cascade occurs (other than collapses)  Rocking back Line tension  Most lines tight A Less than 45° A Less than					
Rocking back   Less than 45°   A   No (or only a small number of collapsed cells with a spontaneous reinflation)   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a 4   A   No (or only a small number of collapsed cells with a					
Line tension Most lines tight A Most lines tight A Most lines tight A 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle of to tase than 90° / Dive or roll angle and the proposite side occurs  Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No No A No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45°  Change of course until re-inflation / Maximum dive forward or roll angle 15° to 45°  Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous re-inflation  A No (or only a small number of collapsed cells with a spontaneous re-inflation)  Twist occurs  No (or only a small number of collapsed cells with a spontaneous re-inflation)  Twist occurs  No (or only a small number of collapsed cells with a spontaneous re-inflation)  A No (or only a small number of collapsed cells with a spontaneous re-inflation)  A No (or only a small number of collapsed cells with a spontaneous re-inflation)  A No (or only a small number of collapsed cells with a spontaneous re-inflation)  A No (or only a small number of collapsed cells with a spontaneous re-inflation)					
Small asymmetric collapse   Small asymmetric collapse   Change of course until re-inflation / Maximum dive forward or roll angle   Change of course until re-inflation / Maximum dive forward or roll angle   Change of course until re-inflation / Maximum dive forward or roll angle   Change of course   Change of course until re-inflation   Change of course until re-inflation   Change of course   Change of course until re-inflation   Change of cours	Rocking back		Α		
Small asymmetric collapse       Change of course until re-inflation / Maximum dive forward or roll angle of to 15° t	Line tension	Most lines tight	Α	Most lines tight	Α
Change of course until re-inflation / Maximum dive forward or roll angle 0° to 15°	14. Asymmetric collapse	В			
roll angle Re-inflation behaviour Spontaneous re-inflation A Spontaneous re-inflation A Spontaneous re-inflation A Collapse on the opposite side occurs No (or only a small number of collapsed cells with a spontaneous re-inflation) Twist occurs No Cascade occurs No No No A No Cascade occurs No No A No No A No No A No A No No A No Collapsed cells with a spontaneous re-inflation A No Cor only a small number of collapsed cells with a spontaneous re-inflation A No Cor only a small number of collapsed cells with a spontaneous re-inflation A No Cor only a small number of collapse dells with a spontaneous re-inflation A No Collapse	Small asymmetric collapse				
Total change of course  Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No No A No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No No A No No A No No A No	•		Α		Α
Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No Cascade occurs  No No No A No A 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	Total change of course	Less than 360°	Α	Less than 360°	Α
Cascade occurs  Folding lines used  No  No  No  No  No  Large asymmetric collapse  Change of course until re-inflation / Maximum dive forward or roll angle Re-inflation behaviour  Total change of course  Collapse on the opposite side occurs  No  No  No  No  Spontaneous re-inflation  No  No  No  No  No  No  No  No  No	Collapse on the opposite side occurs	collapsed cells with a spontaneous	Α	collapsed cells with a spontaneous	Α
Folding lines used Large asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle of special angle roll angle angle from the opposite side occurs  Twist occurs  Twist occurs  Twist occurs  Total change of course  Cascade occurs  No  No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or Change of C	Twist occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or roll angle angle Re-inflation behaviour  Total change of course  Collapse on the opposite side occurs  Twist occurs  Cascade occurs  Change of course with fully activated accelerator  Change of course with ire-inflation / Maximum dive forward or Change of course until re-inflation / Maximum dive forward or Ch	Cascade occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or roll angle angle Re-inflation behaviour  Total change of course  Collapse on the opposite side occurs  Twist occurs  Cascade occurs  Change of course with fully activated accelerator  Change of course with ire-inflation / Maximum dive forward or Change of course until re-inflation / Maximum dive forward or Ch	Folding lines used	No		No	
Change of course until re-inflation / Maximum dive forward or roll angle roll	Large asymmetric collapse				
Re-inflation behaviour  Total change of course  Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No  No  No  No  A  No  A  No  Cascade occurs  No  No  No  No  No  A  Cascade occurs  No  No  No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or  Change of course until re-inflation / Maximum dive forward or  No  Less than 90° / Dive or roll angle  A  Less than 90° / Dive or roll angle  A  Less than 90° / Dive or roll angle  A	Change of course until re-inflation / Maximum dive forward or		В		В
Total change of course  Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No  No  No  A  No  Cascade occurs  No  No  No  A  Less than 360°  A  A  No  Collapsed cells with a spontaneous reinflation)  A  Cascade occurs  No  No  No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or  Less than 90° / Dive or roll angle  A  Less than 90° / Dive or roll angle  A  Less than 90° / Dive or roll angle  A	· ·		Α		Α
Collapse on the opposite side occurs  No (or only a small number of collapsed cells with a spontaneous reinflation)  Twist occurs  No  No  A  No (or only a small number of collapsed cells with a spontaneous reinflation)  A  No  A  Folding lines used  No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or  Less than 90° / Dive or roll angle  A  Less than 90° / Dive or roll angle  A		•		·	
collàpsed cells with a spontaneous reinflation)  Twist occurs  No  No  A  No  No	-				
Cascade occurs  No  No  No  No  No  No  No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or  Less than 90° / Dive or roll angle  A Less than 90° / Dive or roll angle  A Less than 90° / Dive or roll angle  A	Collapse on the opposite side occurs	collapsed cells with a spontaneous	^	collapsed cells with a spontaneous	^
Folding lines used No No  Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or Less than 90° / Dive or roll angle A Less than 90° / Dive or roll angle A	Twist occurs	No	Α	No	Α
Small asymmetric collapse with fully activated accelerator  Change of course until re-inflation / Maximum dive forward or Less than 90° / Dive or roll angle A Less than 90° / Dive or roll angle A	Cascade occurs	No	Α	No	Α
Change of course until re-inflation / Maximum dive forward or Less than 90° / Dive or roll angle A Less than 90° / Dive or roll angle A	Folding lines used	No		No	
	Small asymmetric collapse with fully activated accelerator	•			
			Α		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 (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
Large asymmetric collapse with fully activated 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 (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
15. Directional control with a maintained asymmetric collapse	Α			
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	A			
Spin occurs	No	Α	No	Α
17. Low speed spin tendency	Α			
Spin occurs	No	Α	No	Α
18. Recovery from a developed spin	В			
Spin rotation angle after release	Stops spinning in 90° to 180°	В	Stops spinning in 90° to 180°	В
Cascade occurs	No	Α	No	Α
19. B-line stall	Α			
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	A			
Entry procedure	Dedicated controls	Α	Dedicated controls	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	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	A	Spontaneous in 3 s to 5 s	Α
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	Α	Stable flight	Α
22. Alternative means of directional control	<b>A</b>			
180° turn achievable in 20 s	Yes	Α	Yes	Α
Stall or spin occurs	No	Α	No	Α
23. 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
24 Comments of test pilot				