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test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



Flight test report: EN 926-2:2013+A1:2021 and NfL 2024-2-785

Manufacturer Address	Dudek Paragliders - ul. Centralna 2U	POWAIR	Certification numb	ber	PG_2542.2025 28.04.2025	
	86-031 Osielsko Poland		-			
Glider model	Halo 20		Classification		A	
Serial number	P-271681		Representative		None	
Trimmer	no		Place of test		Villeneuve	
Folding lines used	no					
Test pilot		Light pilot unde supervision	er Air Turquoise		Victor Chinen Cirilli	
Harness		Woody Valley	Woody Valley srl Wani Light 2 S		Woody Valley srl Wani Light 2 M	
Harness to risers d	istance [cm]	41	, ,		43	
Distance between r	risers [cm]	40			40	
Total weight in fligh	nt [kg]	50			70	
1. Inflation/Take-off		Α				
Rising behaviour		Smooth, easy and con	stant rising	Α	Smooth, easy and constant rising	Α
Special take off technique	e required	No		Α	No	Α
2. Landing		Α				
Special landing technique	erequired	No		Α	No	Α
3. Speed in straight flight	nt	Α				
3. Speed in straight flight Trim speed more than 30 km/h		Yes		Α	Yes	Α
Speed range using the co	ontrols 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		Increasing / greater that	an 55 cm	Α	Increasing / greater than 55 cm	Α
Max. weight in flight 80	kg to 100 kg					
Symmetric control pressure / travel		not available		0	not available	0
Max weight in flight gre	eater than 100 kg					
Max. weight in flight greater than 100 kg Symmetric control pressure / travel		not available		0	not available	0
•						
5. Pitch stability exiting		A	20%	٨	Diverterment less than 200	٨
Dive forward angle on exi	t	Dive forward less than	30°	Α	Dive forward less than 30°	Α
Collapse occurs		No		Α	No	Α
6. Pitch stability operati accelerated flight	ng controls during	A				
Collapse occurs		No		Α	No	Α
7. Roll stability and dam	ping	Α				
7. Roll stability and damping Oscillations		Reducing		Α	Reducing	Α
Collapse occurs 7. Roll stability and damping Oscillations 8. Stability in gentle spirals		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)	A
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
10. Symmetric front collapse Approximately 30 % chord	Α			
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
Folding lines used	No	Α	No	Α
At least 50% chord 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
Folding lines used	No	Α	No	Α
With accelerator				
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
Folding lines used	No	Α	No	Α
11. Exiting deep stall (parachutal stall)	A Yes	٨	Yes	٨
Deep stall achieved	Spontaneous in less than 3 s		Spontaneous in less than 3 s	A A
Recovery	Dive forward 0° to 30°	A		A
Dive forward angle on exit	Changing course less than 45°	A		A
Change of course Cascade occurs	No		No No	Α
	A	,,		^`
12. High angle of attack recovery 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 Dive forward angle on exit	A Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
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	A			
Small asymmetric collapse				
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 0° to 15°	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	Α	No	Α
Large asymmetric 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 (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	Α	No	Α
Small asymmetric collapse with fully activated accelerator				
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 (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	Α	No	Α
Large asymmetric collapse with fully activated accelerator				
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 (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	Α	No	Α
Able to keep course Yes A Yes A 180" turn awwy from the collapsed side possible in 10 a Yes A Yes A Amount of control range between turn and stall or spin Mare than 50 % of the symmetric control travel A No. A No. A 16. Trim speed spin tendency Spin occurs A A A No. A No. A 17. Low speed spin tendency Spin rodation angle after release A A No. A No. A 18. Recovery from a developed spin Spin rodation angle after release A A No. A No. A Cascade occurs No. A No. A No. A 15. B-line stall A Change of course before release Change of course less than 45° A Decourse of course less than 45° A <td></td> <td>A</td> <td></td> <td></td> <td></td>		A			
Amount of control range between turn and stall or spin 16. Trim speed spin tendency No No A No A No A 17. Low speed spin tendency No No A No No A No A 17. Low speed spin tendency Spin occurs No No A No A No A 18. Recovery from a developed spin A Spin rotation angle after release No No A No A No A No A 19. B-line stall Change of course before release Renaise stable with straight spen Behaviour before release Renaise stable with straight spen Dive forward angle on exit Div		Yes	Α	Yes	Α
16. Frim speed spin tendency Spin occurs No No A	180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Spin occurs No A No A No A No A No A No A 17. Low speed spin tendency Spin occurs No A No A No A No A No A 18. Recovery from a developed spin A No A 18. Recovery from a developed spin A No A 18. Recovery from a developed spin A No A No A No A No A 18. Recovery from a developed spin A No A N	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
Spin occurs No No A No A No A No A No A Spin occurs No No A Spin occurs No No A Spin occurs No A Spin occurs No A Spin occurs A Spin occurs No A Spin occurs A Spin occurs No A Spin occurs No A Spin occurs No A Spin occurs A Spin occurs No A Spin occurs No A Spin occurs No A Spin occurs A Spin occurs No A Spin o	16. Trim speed spin tendency	A			
Spin occurs No A No A No A 18. Recovery from a developed spin Spin rotation angle after release Stops spinning in less than 90° A No A 19. B-line stall A Change of course before release Change of course before release Changing course less than 45° A Changing course less than 45° A Changing course less than 45° A Behaviour before release Recovery Spintineous in less than 3 s A Dive forward of to 30° A No A N	Spin occurs	No	Α	No	Α
Spin rotation angle after release Stops spinning in less than 90" A Stops			Α	No	Α
Cascade occurs No A 19. B-line stall A 19. Dive forward or to 30° A 19. B-line stall A 19. B-li	18. Recovery from a developed spin	A			
A Change of course before release Remains stable with straight span A Recovery Spontaneous in less than 3 s A Dive forward or lo 30° A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Dedicated controls A Dive forward or lo 30° A Dive forward or lo 30° A Dive forward or lo 30° A Dedicated controls A Stable flight A Stable flight A Dedicated controls A Dedicated controls A Stable flight A S	Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Change of course before release Change of course before release Remains stable with straight span A Spontaneous in less than 3 s A Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dive forward on to 30° A Dive forward on to 30° A Dive forward on to 30° A Dive forward on the straight span A Stable flight A Dive forward on to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Dive forward on to 30° A Dive forward on to 30° A Dive forward on the straight span A Dive forward on to 30° A Dedicated controls A De	Cascade occurs	No	Α	No	Α
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Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A No	Behaviour before release	Remains stable with straight span	Α	Remains stable with straight span	Α
Cascade occurs No A 20. Big ears Entry procedure Dedicated controls A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward angle on exit Dive forward 0° to 30° Dedicated controls A Dive forward 0° to 30° Dedicated controls A Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Stable flight A	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
20. Big ears Entry procedure Dedicated controls A Dedicated controls A Stable flight A Dive forward or to 30° A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward or to 30° A D	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Entry procedure Dedicated controls A Dedicated controls A Stable flight A Dive forward on the stable flight A Dive forward on the stable flight A Dedicated controls A	Cascade occurs	No	Α	No	Α
Behaviour during big ears Stable flight A Stable flight A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Dive forward 0° to 30° A Dive forward	_				
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward or to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Spontaneous in less than 3 s A Dive forward 0° to 30° A Dive for	Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward on to 30° A D	Behaviour during big ears	Stable flight	Α	Stable flight	Α
21. Big ears in accelerated flight Entry procedure Dedicated controls A Stable flight A Stable flight A Spontaneous in less than 3 s A Dive forward angle on exit Dive forward 0° to 30° A Dive forward angle on exit Dive forward 0° to 30° A Stable flight A Dedicated controls A Dive forward 0° to 30° A Dive	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Entry procedure Dedicated controls A Dedicated controls A Stable flight A Sta	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Behaviour during big ears Stable flight A Stable flight A Stable flight A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward angle on exit Dive forward on to 30 s A Stable flight A Pres A Pres A Pres A Pres A No A No A Procedure suitable for novice pilots Not available O not available O not available O not available O not available					
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0° to 30° A Stable flight A Stabl	Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Behaviour immediately after releasing the accelerator while maintaining big ears 22. Alternative means of directional control 180° turn achievable in 20 s Yes A Yes A Stable flight A Stable flight A Stable flight A Yes A Pes A Pes A Pes A Pes A No A No A No A No Procedure works as described Not available Not available O not available O not available O not available	Behaviour during big ears	Stable flight	Α	Stable flight	Α
Behaviour immediately after releasing the accelerator while maintaining big ears 22. Alternative means of directional control 180° turn achievable in 20 s No A Stall or spin occurs No A No A No A A Stable flight A Yes A A Yes A Procedure works as described Not available	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
while maintaining big ears 22. Alternative means of directional control A 180° turn achievable in 20 s Yes A Stall or spin occurs No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 not available 0 not available 0 not available 0	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
180° turn achievable in 20 s Yes A Yes A Stall or spin occurs No No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0		Stable flight	Α	Stable flight	Α
Stall or spin occurs No A No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 not available 0 not available 0 not available 0			^	Voc	٨
23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 not available 0 not available 0 Procedure suitable for novice pilots not available 0 not available 0	180° turn achievable in 20 s	1 to	А	169	А
configuration described in the user's manual Procedure works as described not available 0 not available 0 Procedure suitable for novice pilots not available 0 not available 0 O not available 0	Stall or spin occurs	No	Α	No	Α
Procedure suitable for novice pilots not available 0 not available 0	23. Any other flight procedure and/or configuration described in the user's manual	0			
Troccadio callabio for horizo piloto	Procedure works as described	not available	0	not available	0
Cascade occurs 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