

UP K2 4 SM Type designation UP K2 4 SM Type test reference no DHV GS-01-2591-20 Holder of certification UP International GmbH Manufacturer UP International GmbH **Classification** B Winch towing Yes Number of seats min / max 1 / 2 Accelerator No Trimmers Yes BEHAVIOUR AT MIN WEIGHT IN BEHAVIOUR AT MAX FLIGHT (110KG) WEIGHT IN FLIGHT (200KG) **Test pilots** 3.50 **Josef Bauer Sebastian Mackrodt** No release No release A Inflation/take-off A Rising behaviour Smooth, easy and constant rising Smooth, easy and constant rising Special take off technique required No No **Landing** A A Special landing technique required No No <u>Speeds in straight flight</u> Α A Trim speed more than 30 km/h Yes Yes Speed range using the controls larger than 10 Yes Yes

Speed range using the controls larger than 10 km/h		Yes
	Less than 25 km/h	Less than 25 km/h
	La crossing	¦A Thompsoing
Symmetric control pressure Symmetric control travel	-	Increasing Greater than 65 cm
Pitch stability exiting accelerated flight		
Not carried out because the glider is not equipped w	ith an accelerator	
Pitch stability operating controls during accele	rated flight	
Not carried out because the glider is not equipped w		
Roll stability and damping	Α	A
Oscillations	Reducing	Reducing
Stability in gentle spirals	Α	A
Tendency to return to straight flight	<u>.</u>	Spontaneous exit
, 55	·	
Behaviour exiting a fully developed spiral dive	Α	A
Initial response of glider (first 180°)		Immediate reduction of rate of tur
Tendency to return to straight flight	rate of turn decreasing)	Spontaneous exit (g force decreasing, rate of turn decreasin
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
Symmetric front collapse	В	Α
	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit Change of course		Dive forward 0° to 30° Keeping course
Change of course Cascade occurs		No
Folding lines used		no
		P
Unaccelerated collapse (at least 50 % chord)	Rocking back less than 45°	B Rocking back less than 45°
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	-	Dive forward 30° to 60°
Change of course		Keeping course
Cascade occurs Folding lines used		No
Accelerated collapse (at least 50 % chord)		
Accelerated collapse (at least 50 % chord) Not carried out because the glider is not equipped w		В
Accelerated collapse (at least 50 % chord) Not carried out because the glider is not equipped w Exiting deep stall (parachutal stall) Deep stall achieved	ith an accelerator A Yes	B Yes
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<u>Exiting deep stan (parachutar stan)</u>	<u>1</u> A	
Deep stall achieved	Yes	Yes
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 30° to 60°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	No	No
<u>High angle of attack recovery</u>	A	Α
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No
Recovery from a developed full stall	Α	В
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 30° to 60°
Collapse	No collapse	No collapse
Cascade occurs (other than collapses)	No	No
Rocking back	Less than 45°	Less than 45°
Line tension	Most lines tight	Most lines tight
Small asymmetric collapse	Α	A
Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 0° to 15°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no
<u>Large asymmetric collapse</u>	В	В
Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no

Small asymmetric collapse accelerated

Not carried out because the glider is not equipped with an accelerator

Large asymmetric collapse accelerated

Not carried out because the glider is not equipped with an accelerator

Directional control with a maintained asymmetric collapse	Α	Α
Able to keep course	e Yes	Yes
180° turn away from the collapsed side possible in 10 s	e Yes	Yes
Amount of control range between turn and stall or spin		More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	s No	No
Low speed spin tendency	A	A
Spin occurs	s No	No
Recovery from a developed spin	Α	Α
Spin rotation angle after release	e Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs		No
<u>B-line stall</u>	A	Α
Change of source hefers release	Changing course less than 45°	Changing course less than 45°
Change of course before release		
-	Remains stable with straight span	Remains stable with straight span
Behaviour before release		
Behaviour before release	Remains stable with straight span Spontaneous in less than 3 s	Remains stable with straight span
Behaviour before release Recovery	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° 	Remains stable with straight span Spontaneous in less than 3 s
Behaviour before release Recovery Dive forward angle on exit Cascade occurs	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No
Behaviour before release Recovery Dive forward angle on exit	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Big ears	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Behaviour during big ears Recovery Dive forward angle on exit Big ears in accelerated flight Not carried out because the glider is not equipped version	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° with an accelerator 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Behaviour before release Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Big ears Dive forward angle on exit Recovery Dive forward angle on exit Big ears in accelerated flight Not carried out because the glider is not equipped we have: Alternative means of directional control	 Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° vith an accelerator A Yes 	Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° A

Any other flight procedure and/or configuration described in the user's manual No other flight procedure or configuration described in the user's manual