

DHV TESTREPORT EN 926-2:2013+A1:2021

UP MANA 2 27

Type designation	UP Mana 2 27
Type test reference no	DHV GS-01-2757-23
Holder of certification	UP International GmbH
Manufacturer	UP International GmbH
Classification	A
Winch towing	Yes
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No



	BEHAVIOUR AT MIN WEIGHT IN FLIGHT (80KG)	BEHAVIOUR AT MAX WEIGHT IN FLIGHT (130KG)
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	BEHAVIOUR AT MIN WEIGHT IN FLIGHT (80KG)	BEHAVIOUR AT MAX WEIGHT IN FLIGHT (130KG)
<b>Test pilots</b>	 Josef Bauer No release	 Mario Eder No release
<b>Inflation/take-off</b>	A	A
<b>Rising behaviour</b>	Smooth, easy and constant rising	Smooth, easy and constant rising
<b>Special take off technique required</b>	No	No
<b>Landing</b>	A	A
<b>Special landing technique required</b>	No	No
<b>Speeds in straight flight</b>	A	A
<b>Trim speed more than 30 km/h</b>	Yes	Yes
<b>Speed range using the controls larger than 10 km/h</b>	Yes	Yes
<b>Minimum speed</b>	Less than 25 km/h	Less than 25 km/h
<b>Control movement</b>	A	A
<b>Symmetric control pressure</b>	Increasing	Increasing
<b>Symmetric control travel</b>	Greater than 60 cm	Greater than 65 cm
<b>Pitch stability exiting accelerated flight</b>	A	A
<b>Dive forward angle on exit</b>	Dive forward less than 30°	Dive forward less than 30°
<b>Collapse occurs</b>	No	No
<b>Pitch stability operating controls during accelerated flight</b>	A	A
<b>Collapse occurs</b>	No	No
<b>Roll stability and damping</b>	A	A
<b>Oscillations</b>	Reducing	Reducing
<b>Stability in gentle spirals</b>	A	A
<b>Tendency to return to straight flight</b>	Spontaneous exit	Spontaneous exit
<b>Behaviour exiting a fully developed spiral dive</b>	A	A
<b>Initial response of glider (first 180°)</b>	Immediate reduction of rate of turn	Immediate reduction of rate of turn
<b>Tendency to return to straight flight</b>	Spontaneous exit (g force decreasing, rate of turn decreasing)	Spontaneous exit (g force decreasing, rate of turn decreasing)
<b>Turn angle to recover normal flight</b>	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
<b>Symmetric front collapse</b>	A	A
<b>Entry</b>	Rocking back less than 45°	Rocking back less than 45°
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Keeping course	Keeping course
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Unaccelerated collapse (at least 50 % chord)</b>	A	A
<b>Entry</b>	Rocking back less than 45°	Rocking back less than 45°
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Keeping course	Keeping course
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Accelerated collapse (at least 50 % chord)</b>	A	A
<b>Entry</b>	Rocking back less than 45°	Rocking back less than 45°
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Keeping course	Keeping course
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Exiting deep stall (parachuta stall)</b>	A	A
<b>Deep stall achieved</b>	Yes	Yes
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Changing course less than 45°	Changing course less than 45°
<b>Cascade occurs</b>	No	No
<b>High angle of attack recovery</b>	A	A
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Cascade occurs</b>	No	No
<b>Recovery from a developed full stall</b>	A	A
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Collapse</b>	No collapse	No collapse
<b>Cascade occurs (other than collapses)</b>	No	No
<b>Rocking back</b>	Less than 45°	Less than 45°
<b>Line tension</b>	Most lines tight	Most lines tight
<b>Small asymmetric collapse</b>	A	A
<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 0° to 15°	Dive or roll angle 0° to 15°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	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)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Large asymmetric collapse</b>	A	A
<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	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)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Small asymmetric collapse accelerated</b>	A	A
<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 0° to 15°	Dive or roll angle 0° to 15°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	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)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Large asymmetric collapse accelerated</b>	A	A
<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 0° to 15°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	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)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>Folding lines used</b>	no	no
<b>Directional control with a maintained asymmetric collapse</b>	A	A
<b>Able to keep course</b>	Yes	Yes
<b>180° turn away from the collapsed side possible in 10 s</b>	Yes	Yes
<b>Amount of control range between turn and stall or spin</b>	More than 50 % of the symmetric control travel	More than 50 % of the symmetric control travel
<b>Trim speed spin tendency</b>	A	A
<b>Spin occurs</b>	No	No
<b>Low speed spin tendency</b>	A	A
<b>Spin occurs</b>	No	No
<b>Recovery from a developed spin</b>	A	A
<b>Spin rotation angle after release</b>	Stops spinning in less than 90°	Stops spinning in less than 90°
<b>Cascade occurs</b>	No	No
<b>B-line stall</b>	A	A
<b>Change of course before release</b>	Changing course less than 45°	Changing course less than 45°
<b>Behaviour before release</b>	Remains stable with straight span	Remains stable with straight span
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Cascade occurs</b>	No	No
<b>Big ears</b>	A	A
<b>Entry procedure</b>	Standard technique	Standard technique
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Big ears in accelerated flight</b>	A	A
<b>Entry procedure</b>	Standard technique	Standard technique
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Behaviour immediately after releasing the accelerator while maintaining big ears</b>	Stable flight	Stable flight
<b>Alternative means of directional control</b>	A	A
<b>180° turn achievable in 20 s</b>	Yes	Yes
<b>Stall or spin occurs</b>	No	No
<b>Any other flight procedure and/or configuration described in the user's manual</b>	No other flight procedure or configuration described in the user's manual	