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DHV TESTREPORT LTF

SKYWALK ARAK AIR XXS

| | | |
|---------------------------|-----------------------|--|
| Type designation | Skywalk Arak Air XXS | |
| Type test reference no | DHV GS-01-2581-20 | |
| Holder of certification | Skywalk GmbH & Co. KG | |
| Manufacturer | Skywalk GmbH & Co. KG | |
| Classification | B | |
| Winch towing | Yes | |
| Number of seats min / max | 1 / 1 | |
| Accelerator | Yes | |
| Trimmers | No | |



| | BEHAVIOUR AT MIN WEIGHT IN FLIGHT (55KG) | BEHAVIOUR AT MAX WEIGHT IN FLIGHT (80KG) |
|--|--|--|
|--|--|--|

| | | |
|-------------|--|---|
| Test pilots |  Josef Bauer No release |  Beni Stocker No release |
|-------------|--|---|

| | | |
|--------------------|---|---|
| Inflation/take-off | B | A |
|--------------------|---|---|

| | | |
|-------------------------------------|--|----------------------------------|
| Rising behaviour | Easy rising, some pilot correction is required | Smooth, easy and constant rising |
| Special take off technique required | No | No |

| | | |
|---------|---|---|
| Landing | A | A |
|---------|---|---|

| | | |
|------------------------------------|----|----|
| Special landing technique required | No | No |
|------------------------------------|----|----|

| | | |
|---------------------------|---|---|
| Speeds in straight flight | A | A |
|---------------------------|---|---|

| | | |
|--|-----|-----|
| Trim speed more than 30 km/h | Yes | Yes |
| Speed range using the controls larger than 10 km/h | Yes | Yes |

| | | |
|---------------|-------------------|-------------------|
| Minimum speed | Less than 25 km/h | Less than 25 km/h |
|---------------|-------------------|-------------------|

| | | |
|------------------|---|---|
| Control movement | A | A |
|------------------|---|---|

| | | |
|----------------------------|--------------------|--------------------|
| Symmetric control pressure | Increasing | Increasing |
| Symmetric control travel | Greater than 55 cm | Greater than 60 cm |

| | | |
|--|---|---|
| Pitch stability exiting accelerated flight | A | A |
|--|---|---|

| | | |
|----------------------------|----------------------------|----------------------------|
| Dive forward angle on exit | Dive forward less than 30° | Dive forward less than 30° |
| Collapse occurs | No | No |

| | | |
|--|---|---|
| Pitch stability operating controls during accelerated flight | A | A |
|--|---|---|

| | | |
|-----------------|----|----|
| Collapse occurs | No | No |
|-----------------|----|----|

| | | |
|----------------------------|---|---|
| Roll stability and damping | A | A |
|----------------------------|---|---|

| | | |
|--------------|----------|----------|
| Oscillations | Reducing | Reducing |
|--------------|----------|----------|

| | | |
|-----------------------------|---|---|
| Stability in gentle spirals | A | A |
|-----------------------------|---|---|

| | | |
|---------------------------------------|------------------|------------------|
| Tendency to return to straight flight | Spontaneous exit | Spontaneous exit |
|---------------------------------------|------------------|------------------|

| | | |
|---|---|---|
| Behaviour exiting a fully developed spiral dive | B | B |
|---|---|---|

| | | |
|---|--|--|
| Initial response of glider (first 180°) | en : keine unmittelbare Reaktion | en : keine unmittelbare Reaktion |
| Tendency to return to straight flight | Spontaneous exit (g force decreasing, rate of turn decreasing) | Spontaneous exit (g force decreasing, rate of turn decreasing) |

| | | |
|-------------------------------------|--------------------------------------|--------------------------------------|
| Turn angle to recover normal flight | Less than 720°, spontaneous recovery | 720° to 1 080°, spontaneous recovery |
|-------------------------------------|--------------------------------------|--------------------------------------|

| | | |
|--------------------------|---|---|
| Symmetric front collapse | A | A |
|--------------------------|---|---|

| | | |
|----------|------------------------------|------------------------------|
| Entry | Rocking back less than 45° | Rocking back less than 45° |
| 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 0° to 30° |
| Change of course | Keeping course | Entering a turn of less than 90° |

| | | |
|--------------------|----|----|
| Cascade occurs | No | No |
| Folding lines used | no | no |

| | | |
|--|---|---|
| Unaccelerated collapse (at least 50 % chord) | A | A |
|--|---|---|

| | | |
|----------|------------------------------|------------------------------|
| Entry | Rocking back less than 45° | Rocking back less than 45° |
| 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 0° to 30° |
| Change of course | Keeping course | Entering a turn of less than 90° |

| | | |
|--------------------|----|----|
| Cascade occurs | No | No |
| Folding lines used | no | no |

| | | |
|--|---|---|
| Accelerated collapse (at least 50 % chord) | B | B |
|--|---|---|

| | | |
|----------|------------------------------|------------------------------|
| Entry | Rocking back less than 45° | Rocking back less than 45° |
| Recovery | Spontaneous in less than 3 s | Spontaneous in less than 3 s |

| | | |
|----------------------------|-------------------------|----------------------------------|
| Dive forward angle on exit | Dive forward 30° to 60° | Dive forward 30° to 60° |
| Change of course | Keeping course | Entering a turn of less than 90° |

| | | |
|--------------------|----|----|
| Cascade occurs | No | No |
| Folding lines used | no | no |

| | | |
|---------------------------------------|---|---|
| Exiting deep stall (parachutal stall) | A | 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 0° to 30° |
| Change of course | Changing course less than 45° | Changing course less than 45° |

| | | |
|----------------|----|----|
| Cascade occurs | No | No |
|----------------|----|----|

| | | |
|-------------------------------|---|---|
| High angle of attack recovery | A | A |
|-------------------------------|---|---|

| | | |
|----------------|------------------------------|------------------------------|
| Recovery | Spontaneous in less than 3 s | Spontaneous in less than 3 s |
| Cascade occurs | No | No |

| | | |
|--------------------------------------|---|---|
| Recovery from a developed full stall | A | A |
|--------------------------------------|---|---|

| | | |
|----------------------------|------------------------|------------------------|
| Dive forward angle on exit | Dive forward 0° to 30° | Dive forward 0° to 30° |
| 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 | A | 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 |
|--------------------|----|----|

| | | |
|---------------------------|---|---|
| Large asymmetric collapse | B | A |
|---------------------------|---|---|

| | | |
|-------------------------------------|-------------------------------|-------------------------------|
| Change of course until re-inflation | 90° to 180° | Less than 90° |
| 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 | A | A |
|---------------------------------------|---|---|

| | | |
|-------------------------------------|-------------------------------|-------------------------------|
| Change of course until re-inflation | Less than 90° | Less than 90° |
| 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 |
|--------------------|----|----|

| | | |
|---------------------------------------|---|---|
| Large asymmetric collapse accelerated | A | A |
|---------------------------------------|---|---|

| | | |
|-------------------------------------|-------------------------------|-------------------------------|
| Change of course until re-inflation | Less than 90° | Less than 90° |
| 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 |
|--------------------|----|----|

| | | |
|---|---|---|
| Directional control with a maintained asymmetric collapse | A | A |
|---|---|---|

| | | |
|---|-----|-----|
| Able to keep course | Yes | Yes |
| 180° turn away from the collapsed side possible in 10 s | Yes | Yes |

| | | |
|--|--|--|
| Amount of control range between turn and stall or spin | More than 50 % of the symmetric control travel | More than 50 % of the symmetric control travel |
|--|--|--|

| | | |
|--------------------------|---|---|
| Trim speed spin tendency | A | A |
|--------------------------|---|---|

| | | |
|-------------|----|----|
| Spin occurs | No | No |
|-------------|----|----|

| | | |
|-------------------------|---|---|
| Low speed spin tendency | A | A |
|-------------------------|---|---|

| | | |
|-------------|----|----|
| Spin occurs | No | No |
|-------------|----|----|

| | | |
|--------------------------------|---|---|
| Recovery from a developed spin | A | A |
|--------------------------------|---|---|

| | | |
|-----------------------------------|---------------------------------|---------------------------------|
| Spin rotation angle after release | Stops spinning in less than 90° | Stops spinning in less than 90° |
| Cascade occurs | No | No |

| | | |
|--------------|---|---|
| B-line stall | A | A |
|--------------|---|---|

| | | |
|---------------------------------|-----------------------------------|-----------------------------------|
| Change of course before release | Changing course less than 45° | Changing course less than 45° |
| Behaviour before release | Remains stable with straight span | Remains stable with straight span |

| | | |
|----------------------------|------------------------------|------------------------------|
| Recovery | Spontaneous in less than 3 s | Spontaneous in less than 3 s |
| Dive forward angle on exit | Dive forward 30° to 60° | Dive forward 30° to 60° |

| | | |
|----------------|----|----|
| Cascade occurs | No | No |
|----------------|----|----|

| | | |
|----------|---|---|
| Big ears | B | A |
|----------|---|---|

| | | |
|---------------------------|--------------------|--------------------|
| Entry procedure | Standard technique | Dedicated controls |
| Behaviour during big ears | Stable flight | Stable flight |

| | | |
|----------------------------|--|------------------------------|
| Recovery | Recovery through pilot action in less than a further 3 s | Spontaneous in less than 3 s |
| Dive forward angle on exit | Dive forward 0° to 30° | Dive forward 0° to 30° |

| | | |
|--------------------------------|---|---|
| Big ears in accelerated flight | B | A |
|--------------------------------|---|---|

| | | |
|---------------------------|--------------------|--------------------|
| Entry procedure | Standard technique | Dedicated controls |
| Behaviour during big ears | Stable flight | Stable flight |

| | | |
|----------------------------|--|---------------------------|
| Recovery | Recovery through pilot action in less than a further 3 s | Spontaneous in 3 s to 5 s |
| Dive forward angle on exit | Dive forward 0° to 30° | Dive forward 0° to 30° |

| | | |
|--|---------------|---------------|
| Behaviour immediately after releasing the accelerator while maintaining big ears | Stable flight | Stable flight |
|--|---------------|---------------|

| | | |
|--|---|---|
| Alternative means of directional control | A | A |
|--|---|---|

| | | |
|------------------------------|-----|-----|
| 180° turn achievable in 20 s | Yes | Yes |
| Stall or spin occurs | No | No |

| | | |
|--|--|--|
| 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