

### Method 1: Weight & Balance Calculation

| <b>Aircraft Serial Number:</b> |                   | <b>VSW128F0105</b>   |                               |
|--------------------------------|-------------------|----------------------|-------------------------------|
| Scale data                     |                   |                      |                               |
|                                | Scale model/type: | Scale serial number: | Scale calibration valid till: |
| #1                             | WWSC2G4-1.5T      | 0723030057           | 15. Dec. 2024                 |
| #2                             | WWSC2G4-1.5T      | 0723030062           | 15. Dec. 2024                 |
| #3                             | WWSC2G4-1.5T      | 0723030064           | 15. Dec. 2024                 |

| Weight & Balance (aircraft leveled)  |         |  |  |
|--|---------|--|--|
|  |         | Weighing procedure (aircraft leveled - tail cone angle 0°):  |  |
|  |         | <ol style="list-style-type: none"> <li>1) Check: doors closed, flaps 0°, brake fluid, coolant level, tire pressure.</li> <li>2) Turn on the scales and tare.</li> <li>3) Position the aircraft on the scales and level it - tail tool at 0° (aircraft must be leveled before any measurements are taken)</li> <li>4) Measure: <ul style="list-style-type: none"> <li>- distance between Nose wheel and Leading edge = a</li> <li>- distance between Left wheel and Leading edge = b<sub>L</sub></li> <li>- distance between Right wheel and Leading edge = b<sub>R</sub></li> </ul> </li> <li>5) Compute average main undercarriage distance b.</li> <li>6) Remove the tail tool and read the scales.</li> </ol> |  |
| a =  | 1017 mm | Leading edge - Nose wheel  |  |
| b <sub>L</sub> =   | 483 mm  | Leading edge - Left wheel  |  |
| b <sub>R</sub> =   | 483 mm  | Leading edge - Right wheel   |  |
| b =  | 483 mm  | b = (b <sub>L</sub> + b <sub>R</sub> ) / 2   |  |
| NOTE: for more details about leveling and weighing procedures see AMM-128-00-60-001 - latest revision. |         |  |  |

|                  |          |  |  |
|------------------|----------|--|--|
| G <sub>L</sub> = | 185.2 kg | Left wheel                                   | <b>Total Aircraft Empty Weight [kg]</b>  |
| G <sub>R</sub> = | 178.0 kg | Right wheel                                  |  |
|                  |          |  | <b>(G<sub>1</sub> + G<sub>2</sub>) = G<sub>EAW</sub> = 423.3 kg</b>  |
| G <sub>1</sub> = | 363.2 kg | Main gear (G <sub>L</sub> + G <sub>R</sub> ) | Includes the weight of the airframe, propulsion system, required equipment, optional or special equipment if listed, hydraulic fluid, coolant. |
| G <sub>2</sub> = | 60.1 kg  | Front wheel                                  |  |

| Summary (Weights)                         |   |          |  |
|---|---|----------|--|
| Max Takeoff Weight (MTOW)                 | = | 600 kg   |  |
| Aircraft Empty Weight (G <sub>EAW</sub> ) | = | 423.3 kg | (To conform with CS-LSA the max G <sub>EAW</sub> must be 427.6 kg) |
| Max payload (G <sub>PL</sub> )            | = | 176.7 kg | G <sub>PL</sub> = MTOW - G <sub>EAW</sub>                          |

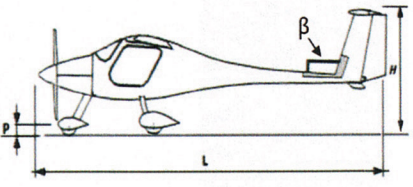
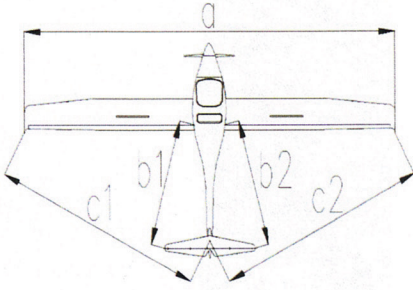
| Aircraft Configuration (see page 8 for details) |                |                |               |
|---|----------------|----------------|---------------|
| SAEL doc number:                                | SALE-206200105 | SAEL doc date: | 13. Jun. 2024 |

| Balance  |  |
|--|--|
| $CG_{mm} = \frac{G_1 \cdot b - G_2 \cdot a}{G_{EAW}} = \frac{(\dots 363.2 \dots) \cdot (\dots 483 \dots) - (\dots 60.1 \dots) \cdot (\dots 1017 \dots)}{(\dots 423.3 \dots)} = \dots 270 \dots \text{ mm}$ |  |
| $CG_{\%MAC} = \frac{CG_{mm} - R_{mm}}{MAC_{mm}} = \frac{\dots 270 \dots - 43}{898} \cdot 100 = \dots 25.3 \dots \% \text{ MAC}$  |  |

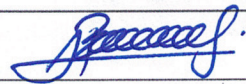
Where: MAC = Mean Aerodynamic Chord = 898 mm R = Wing root leading edge to MAC leading edge distance = 43 mm





| Aircraft Measurements (aircraft with three wheels on the ground)   |          |                |  |
|--|----------|----------------|--|
|  | Measured | Design         |  |
| Ground attitude angle $\beta$  | 1.7 °    | 1.2 ± 0.5 °    | <p>NOTE: <math>\beta</math> angle is positive with nose up ground attitude.</p>  |
| Length of aircraft L   | 646 cm   | 646 - 648 cm   |  |
| Height of aircraft H   | 208 cm   | 206 ± 5 cm     |  |
| Propeller clearance P  | 24.0 cm  | 20.0 - 26.0 cm |  |
| Main landing gear track  | 158 cm   | 156 - 162 cm   |  |
| Wheel base (MLG - nose gear)   | 150 cm   | 150 ± 1 cm     |  |
| Wingtip to ground clearance R  | 151 cm   | 150 ± 5 cm     |  |
| Wingtip to ground clearance L  | 152 cm   | 150 ± 5 cm     |  |
| <p>Measuring procedure (NOTE: all three wheels on the ground):</p> <p>1) Measure:</p> <ul style="list-style-type: none"> <li>- ground attitude angle <math>\beta</math>, and all the dimensions listed in the table above.</li> <li>- distance between L wingtip and R wingtip = <math>a</math></li> <li>- distance between stab. tip and L wing root trailing edge = <math>b_1</math></li> <li>- distance between stab. tip and R wing root trailing edge = <math>b_2</math></li> </ul> <p>2) Compute the difference <math>b_1 - b_2</math></p> <p>3) Measure:</p> <ul style="list-style-type: none"> <li>- distance between L wingtip and stabilizer ref. point <math>c_1</math></li> <li>- distance between R wingtip and stabilizer ref. point <math>c_2</math></li> </ul> <p>4) Compute the difference <math>c_1 - c_2</math></p> |          |                |  |
|  | Measured | Design         |   |
| Wingspan $a$   | 1071 cm  | 1070 ± 2 cm    |  |
| Difference ( $b_1 - b_2$ )   | 0.4 cm   | Max 3 cm       |  |
| Difference ( $c_1 - c_2$ )   | 0.1 cm   | Max 3 cm       |  |

| Control Surface Deflections [ ° ] (+ is down, - is up, from chord ref. line) |          |             |          |            |          |             |
|--|----------|-------------|----------|------------|----------|-------------|
|  | Measured | Design      | Measured | Design     | Measured | Design      |
|  | NEUTRAL  |             | UP       |            | DOWN     |             |
| Flaperon left (flaps 0)  | 0        | 0°          | -12.5    | -13° ± 1°  | 9.8      | +10° ± 1°   |
| Flaperon right (flaps 0)   | 0        | 0°          | -12.5    | -13° ± 1°  | 10.7     | +10° ± 1°   |
| Flaperon left (flaps +1)   | 10.4     | +9.5° ± 1°  | -2.8     | -3° ± 1°   | 20.9     | +21° ± 1.5° |
| Flaperon right (flaps +1)  | 10.4     | +9.5° ± 1°  | -2.7     | -3° ± 1°   | 21.3     | +21° ± 1.5° |
| Flaperon left (flaps +2)   | 20.6     | +20° ± 1.5° | 6.5      | +6.2° ± 1° | 32.5     | +31° ± 2°   |
| Flaperon right (flaps +2)  | 20.6     | +20° ± 1.5° | 6.7      | +6.2° ± 1° | 32.6     | +31° ± 2°   |
| Elevator   | 0        | 0°          | -25      | -25° ± 2°  | 15       | +15° ± 1.5° |
|  | NEUTRAL  |             | LEFT     |            | RIGHT    |             |
| Rudder   | 0        | 0°          | 25       | 25° ± 1°   | 25       | 25° ± 1°    |

|                    |                |       |               |            |   |
|--------------------|----------------|-------|---------------|------------|---|
| Presiding manager: | Andraž Brečelj | Date: | 13. Jun. 2024 | Signature: |  |
|--------------------|----------------|-------|---------------|------------|---|