Type Acceptance Report

TAR 6/21B/21

VIRUS SW 121

For Models:

A.Virus SW 121
B.Virus SW 128
C.Virus SW 121C

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Executive Summary

Mongolian Type Acceptance has been granted to the Pipistrel Vertical Solutions d.o.o. for type Virus SW 121 based on validation EASA Type Certificate number EASA.A.573. There are no special requirements for import.

Applicability is currently limited to the Models numbers detailed in paragraph 2, which are now eligible for type accepted after supply of the applicable documentation, in accordance with the provisions of MCAR §21.43(b).

1. Introduction

This report details the basis on which Type Acceptance Certificate No.6/21B/2021 was granted in the Standard Category in accordance with MCAR Part 21 Subpart B.

Specifically, the report aims to:

(a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the models in Mongolia; and

(b) Identify any special conditions for import applicable to any models covered by the Type Acceptance Certificate;

2. Type Certificate Details

TYPE CERTIFICATE (TC) HOLDER

Pipistrel Vertical Solutions d.o.o.
Vipavska cesta 2,
5270 Ajdovščina
Slovenia, Europe

Models:

A) Virus SW 121
B) Virus SW 128 (Commercial Designation: Velis Electro)
C) Virus SW 121C (Commercial Designation: Velis Club)

3. Type Acceptance Details

The application for Mongolian type acceptance was from the manufacturer, dated 22 July 2021 with signed CAA 24021/02 and CAA2171 forms.

4. MCAR 21.43 Data Requirements

The type data requirements of MCAR Part 21B Para 21.43 have been satisfied by supply of the following documents:

1. Type certificate:
   Type Certificate Data Sheet TCDS. EASA.A.573. Dated: 25 January 2021
2. Airworthiness design requirements:
   This is an acceptable certification basis because JAR-23 is accepted as an equivalent to CS-23, which is specified as the basic standard for Aircraft called up under Part 21 Appendix B. EASA Special Conditions were complied, have been reviewed and accepted by the CAA. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.
3. Certification compliance listing:
   A: MODEL A DESIGNATION EASA Type certification date 18.04.2016
   B: MODEL B DESIGNATION EASA Type certification date 24.06.2020
   C: MODEL C DESIGNATION EASA Type certification date 25.01.2021
4. Certification Basis for the
   Virus SW 121
   Virus SW 128 (Commercial Designation: Velis Electro),
   Virus SW 121C (Commercial Designation: Velis Club)

   4.1 Airworthiness Standarts

   A: Certification Specifications and Acceptable Means of Compliance for Light Sport Aeroplanes CS-LSA, Amendment 1 from 29 July 2013.

   B: Certification Specifications and Acceptable Means of Compliance for Light Sport Aeroplanes CS-LSA, Amendment 1 from 29 July 2013; Certification Specifications and Acceptable Means of Compliance for Airborne Communications, Navigation and Surveillance CS ACNS issue 2 dated 26th April 2019 (subparts A, B, D)

   C: Certification Specifications and Acceptable Means of Compliance for Light Sport Aeroplanes CS-LSA, Amendment 1 from 29 July 2013.

   4.2 Special Conditions (SC)

   A: SC-ELA.2015-01 (CRI F-102), Noise Requirements (CRI N-01) SC-OLSA-div-01 (CRI O-18)

   B: SC-LSA-F2480-01 - LSA Propulsion Lithium Batteries; SC-LSA-15-01 - Electric Powerplant Installation for CS LSA aeroplanes; SC-ELA.2015-01 - Lithium battery installations;

   C: SC-ELA.2015-01 (CRI F-102)

   4.3 Exemptions: none
   4.4 Deviations: none
   4.5 Equivalent Safety Findings: none
   4.6 Environmental Protection: see TCDSN EASA.A.573.

5. Technical Characteristics and Operational Limitations

5.1 Type Design Definition: Master document list No. MDL-121-01-00-001 revision A00 or later approved revision

5.2 Description: Single engine, two-seat, high wing cantilever composite construction aircraft with T-tail empennage configuration and fixed tricycle landing gear.

5.3 Equipment: Minimum equipment see

A. Pilot Operating Handbook POH-121-00-40-001, Section 6.4

B. For equipment list refer to POH-128-00-40-001 Pilot's Operating Handbook, Section 2

C. Minimum equipment see Pilot Operating Handbook POH-121C-00-40-100, Section 2.15.1

5.4 Dimensions

a.	Len Length	6.45 m	21.15 ft
	Span	10.70 m	35.6 ft
	Height	2.06 m6.	6.75 ft
	Wing Area	9.51 m^2	102.4 ft^2
b.	Length	6.47 m	21.22 ft
	Span	10.71 m	35.13 ft
	Height	2.08 m6.	6.82 ft
	Wing Area	9.51 m^2	102.4 ft^2
c.	Length	6.40 m	20.99 ft
	Span	10.70 m	35.10 ft
	Height	1.90 m6.	6.23 ft
	Wing Area	9.51 m^2	102.4 ft^2

5.5 Engine

5.5.1 Model: Rotax 912 S3

5.5.2 Type Certificate: EASA.E.121

5.5.3 Limitations: Maximum Power Rating: 73.5 kW/5800 RPM max 5 min
Maximum Continuous Power: 69kW/5500 RPM

5.5.4 Muffler model Akrapovic iS, drawing number 121-78-00-000

5.6 Load factors: +4G/-2G

5.7 Propeller

5.7.1 Model: MTV-33-1-A/170-200

5.7.2 Type Certificate: EASA.P.048

5.7.3 Number of blades: 2

5.7.4 Diameter: 1700 mm

5.7.5 Rotation direction: clockwise

5.8 Fluids

5.8.1 Fuel	Refer to Pilot Operating Handbook POH-121-00-40-001, Section 2.7
5.8.2 Oil	Refer to Pilot Operating Handbook POH-121-00-40-001, Section 2.8
5.8.3 Coolant	Refer to Pilot Operating Handbook POH-121-00-40-001, Section 2.8

5.9 Fuel capacities	
5.9.1 Fuel	Total: 100 liters Usable: 99 liters
5.9.2 Oil	Maximum oil capacity: 3.5 Minimum oil required: marked on dipstick
5.9.3 Coolant system	2.3 liters (approximately)
5.10 Air speeds	VNE: 136 KTAS (see note 1) VNO: 120 KIAS (see note 2) VA: 100 KIAS VFE: 81 KIAS VAE: 100 KIAS
5.11 Flifgt Envelope	Maximum operating altitude 18,000 ft MSL
5.12 Approved Operations Capability	VFR day operations; Night VFR operations (see note 3)
5.13 Maximum Masses	Maximum takeoff - 600 kg / 1323 lbs Maximum landing - 600 kg / 1323 lbs Maximum zero fuel - 555 kg / 1221 lbs
5.14 Centre of Gravity Range	Forward CG limit – 25% MAC / 267 mm Aft CG limit – 35% MAC / 357 mm
5.15. Reference datum	The wing's leading edge at the root of the wing
5.16. Control surface deflections	Refer to AMM
5.17. Levelling Means	Refer to section 6.2 of the POH
5.18. Minimum Flight Crew	One (1) pilot
5.19. Maximum Passenger	One (1) passenger
5.20. Baggage/ Cargo	Location – port side, aft of the door Compartments Maximum load – 25 kg / 55 lbs
5.21. Wheels and Tyres	Main wheel – 4.00" x 6", Tyre PN: 5050010 Nose wheel – 4.00" x 4", Tyre PN: 5050007
5.22. Lifetime limitations	Refer to AMM

6. Operating and service Instructions

Model Virus SW 121

Aircraft Flight Manual	POH-121-00-40-001_A02 or later approved issue
Aircraft Maintenance Manual	AMM-121-01-00-001_A00 or later approved issue
Structural Repair Manual	Refer to AMM
Weight and Balance Manual	Refer to POH
Illustrated Parts Catalogue	IPC-121-00-50-001_A00 or later approved issue

Model Virus SW 128

Aircraft Flight Manual POH-128-00-40-001 Pilot's Operating Handbook latest approved issue

Aircraft Maintenance Manual AMM-128-00-60-001 Aircraft Maintenance Manual latest approved issue

Structural Repair Manual Refer to AMM-128-00-60-001 Aircraft Maintenance Manual

Weight and Balance Manual Refer to POH-128-00-40-001 Pilot's Operating Handbook

Propeller Instructions Manual Refer to PIM-812-61-00-001 Propeller Instruction Manual
Illustrated Parts Catalogue IPC-128-00-50-001 Illustrated Part Catalogue latest approved issue

Model Virus1 SW 121C

Aircraft Flight Manual POH-121C-00-40-100_A00 or later approved issue
Aircraft Maintenance Manual AMM-121-01-00-001_B00 and SAMM-121C-00-60-100_A00 or later approved issue
Structural Repair Manual Refer to AMM and SAMM
Weight and Balance Manual Refer to POH
Illustrated Parts Catalogue IPC-121-00-50-001_C00 Illustrated Parts Catalogue Virus SW 121 and VELIS Club CS-LSA or later approved issue

7. Notes

for model Virus SW 121

Note 1: VNE is reduced from 163 KIAS at sea level by 2.2 KIAS for every 1000 ft.
Note 2: VNO decreases by 0.5 KIAS for every 1000 ft above FL100.
Note 3: When Night VFR kit PN 1159663 or 1159679 or 1159680 is installed.

for model Virus SW 128

Note 1: Requirements 4, 5, 6.1, 6.2, 6.4, 6.7, 6.10, 6.11, 7.1, 7.3, 7.4 of ASTM F2840-11, as far as the engine and its parts are concerned, are covered through the corresponding certification basis in the engine TCDS EASA.E.234.
Note 2: The propeller is certified as part of the aircraft and therefore is only certified for installation on SW128. For propeller Operating and Service Instructions see: PIM-812-61-00-001 Propeller Instruction Manual

for model Virus SW 121C

Note 1: VNE is reduced from 163 KIAS at sea level by 2.2 KIAS for every 1000 ft.
Note 2: VNO decreases by 0.5 KIAS for every 1000 ft above FL100.

Sign off

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Bayarsaikhan.N
Airworthiness Inspector

Checked

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P.Ganzorig
Airworthiness Senior Inspector

Applicant:
Date: 12 August 2021

Pipistrel Vertical Solutions d.o.o.
Date: .....

List of Type Accepted Variants:
A) Virus SW 121
B) Virus SW 128 (Commercial Designation: Velis Electro)
C) Virus SW 121C (Commercial Designation: Velis Club)
Date Granted: .....