



Prezes Urzędu Lotnictwa Cywilnego
President of the Civil Aviation Authority

ŚWIADECTWO UZNANIA ZATWIERDZENIA TYPU
Type Approval Recognition Certificate

NUMER: **UL-A.00-003/2025**
Reference:

Niniejsze świadectwo uznania zatwierdzenia typu zaświadcza, że określony typ/model ultralekkiego statku powietrznego został uznany za akceptowalny w Rzeczypospolitej Polskiej zgodnie z obowiązującymi przepisami polskiego lotnictwa cywilnego i pozostaje w mocy przez czas nieokreślony, chyba że zatwierdzenie zostanie zrzucone, zawieszone lub cofnięte oraz że został wpisany na listę typów zatwierdzonych prowadzoną przez Prezesa Urzędu Lotnictwa Cywilnego, o której mowa w przepisach wydanych na podstawie art. 33 ust. 2 i 4 ustawy – Prawo lotnicze (Dz. U. z 2023 r. poz. 2110, z 2024 r. poz. 731 i 1222 oraz z 2025 r. poz.31).

This Type Approval Recognition Certificate certifies that the ultralight aircraft type/model specified has been found acceptable in Republic of Poland in accordance with the applicable Polish Civil Aviation regulations and shall remain as such for an unlimited duration unless the approval is surrendered, suspended or revoked and has been entered on the list of approved flying device types managed by the President of the Civil Aviation Authority, referred to in the regulations issued on the basis of Art. 33 para. 2 and 4 of the Aviation Law Act dated July 3rd, 2002 (JL. 2023, item 2110 and JL. 2024, item 731, 1222 and JL 2025, item 31).

Państwo projektu
State of Design

Czech Republic

Państwo produkcji
State of Manufacture

Czech Republic

Posiadacz zatwierdzenia typu
Type Approval Holder

CARBON DESIGN s.r.o.

Hradecká 315, 551 01 Jaroměř, Pražské Předměstí, Czech Republic

Wytwórca
Manufacturer

CARBON DESIGN s.r.o.

Hradecká 351, 551 01 Jaroměř, Pražské Předměstí, Czech Republic

Oznaczenie typu produktu
Product Type Designation

FM250 Vampire 600

Numer zatwierdzenia typu
Type Approval Number

ULL 06/2022

Arkusze danych do zatwierdzenia typu
Type Certificate Data Sheet

ULL 06/2022

Przyjęte wymagania techniczne
Type Certification Basis

UL2 – part I edition 1.2019, Aerodynamically controlled ultralight aircraft, revised version of 27.03.2019

Uwagi
Remarks

Approved by LAA CR the Technical Commission on: 06.06.2022

Date of issuance: TCDS: 02.06.2022 – ULL 06/2022 - first edition

Supplement a: 03.11.2022 – engine Rotax 914 UL

Supplement b: 19.11.2024 – engine Rotax 912 iS

Z up. Prezesa Urzędu Lotnictwa Cywilnego
On behalf of President of the Civil Aviation Authority

Marcin Perkowski

Z-ca Dyrektora Departamentu Techniki Lotniczej

Deputy Director, Aviation Technical Department

(pismo zostało wydane w postaci elektronicznej

i opatrzone kwalifikowanym podpisem elektronicznym)

(the letter was published in electronic form and signed with a qualified electronic signature)

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Data ostatniej zmiany: -----

Date of last revision:



Letecká amatérská asociace ČR – Light Aircraft Association of the Czech Republic

Type Certificate

Issued by the Light Aircraft Association of the Czech Republic (hereinafter LAACR), based on the delegation by the Ministry of Transport to perform the state administration in the matters of sports flying equipment in accordance with the Section 82, Subsection 1 of Act No. 49/1997 Coll. On civil aviation and amending and supplementing Act No. 455/1991 Coll. On Trade Licensing (The Trade Licensing Act), as amended by later regulations of the Ministry of Transport

Aircraft type designation:

Two-seat, single-engine, aerodynamically controlled, all-composite, low flying aircraft – Sport Flying Equipment.

Type designation: **FM250 Vampire 600**

Maximum take off mass 600 kg including the ballistic recovery parachute.

Detailed technical specification is stated in the Data Sheet.

Supplement a) dated November 03, 2022 - engine Rotax 914 UL

Supplement a) dated November 19, 2024 - engine Rotax 912 iS

Type certificate holder:

CARBON DESIGN, s.r.o.

Hradecká 351

551 01 Jaroměř, Pražské Předměstí

Czech Republic

ID: 05285429

Approved by the LAA CR Technical commission on:

June 6, 2022

The Type certificate is registered at the LAA CR under the reference:

ULL 06 / 2022

Letecká amatérská asociace ČR
Ke Kablu 289

102 00 Praha 10

TEL: 242 403 587

LAA CR Chief Technical Inspector:

Ing. Petr Tax

Type certificate number:	ULL – 06 / 2022
Type certificate holder:	Carbon Design s.r.o.
Type SLZ:	FM250 Vampire 600
Date of issuance:	2th July 2022
Date of issue of the supplement a):	3th November 2022
Date of issue of the supplement b):	19th November 2024

Type certificate annex no. ULL - 06 / 2022

I. Generally

1. Type designation: **FM250 Vampire 600**
2. Category: Light sport aircraft, microlight aerodynamically controlled aircraft
3. Type certificate holder: Carbon Design, s.r.o.
Hradecká 315 Pražské Předměstí
551 01 Jaroměř
Czech Republic
ID: 05285429
5. Application date: 15th August 2019
6. Approval date: 6th June 2022

II. Certification specification

1. Airworthiness requirements: UL2 – part I. edition 1. 2019.
Aerodynamically controlled ultralight aircraft, revised version of 27.3.2019.
2. Special conditions: N/A
3. Exceptions: N/A

III. Technical data, performance, operation limitation

1. Type definition: Aircraft type is defined by set of drawings and the Type definition.
2. Description:

The FM250 Vampire 600 is a two-seater self-supporting all-composite ultralight low-wing with side-by-side seating. The fuselage has an oval cross-section of sandwich construction using glass sandwich combined with carbon composite. The wing is a trapezoidal, shell two-spar construction with one main and one auxiliary spar with carbon stiffener technology. The main spars of the wings are connected by means of two main pins housed in bushings, and in this way they are fixed to the fuselage. Integral fuel tanks are located in the wings. The ailerons and single flaps are suspended from the rear spar, which is attached to the fuselage. There is a balance plate on the right aileron. The tail surfaces are also all-composite construction with a continuous undivided VOP spar. The right VOP rudder contains a balance plate.

Aircraft control is fully dual consisting of two control levers, foot control pedals, balance lever, flap control, throttle and brake control. All controls, instruments and switches are located within the pilot's field of vision and are easily accessible from the seats. The ailerons, elevator and flaps are controlled using a pull rod, directional control is solved using steel cables.

The landing gear is three-wheeled, consisting of two composite main landing gear legs with wheels and a front leg with a nose wheel. The bow wheel is steerable and sprung. The main wheels are equipped with hydraulic disc brakes. The brakes are operated manually with a lever on the center panel, which also serves as a parking brake. The wheels can be equipped with removable aerodynamic covers.
3. Equipment: For technical airworthiness approval of light sport aircraft issue, basic equipment according certification specification listed in chapter II must be installed.

4. Basic technical data:

1. Dimensions

Span	7,958 m
Length	6,538 m
High	2,00 m

Wing

Area	10,073 m ²
MAC	1,294 m
Profil	MS313
Aspect ratio	6,287
Wing loading at MTOM 600kg	59,6 kg/m ²

Aileron

Aileron lenght	1,098 m
Area	0,349 m ²
Aileron deflection (up/down)	22 °/14 °

Wing trailing edge flap

Flap length	2,18 m
Area	0,749 m ²
Flap deflection - cruise	0 °
Flap deflection – take-off	9 °
Flap deflection – approach, landing	21 °

Horizontal stabilizer

Span	2,608 m
Area	1,663 m ²
Elevator area	0,648 m ²
Elevator deflection (up/down)	25° / 15°

Vertical fin

Area	0,866 m ²
Rudder area	0,464 m ²
Rudder deflection	+/- 19°

Undercarriage

Main undercarriage wheelbase	1,775 m
Main and front undercarriage wheelbase	1,475 m
Main and front wheel dimensions	4,00-6
Main undercarriage tire pressure	1,8-2,5 bar
Front undercarriage tire pressure	1,8-2,5 bar
Brakes	Hydraulic disc brakes
Main undercarriage suspension	compozite spring
Front undercarriage suspension	elastomer spring

2. Mass

Max. take-off mass	600 kg
Max. take-off mass with emergency parachute system	600 kg
Max. useful load	310 kg
Min. crew mass	60 kg
Max. baggage mass	8 kg
Wing fuel tanks	2x60 l
Standard Empty mass including emergency parachute system	320 kg

3. Airspeed and performance

Engine ROTAX 912 ULS (73,5 kW / 100 HP), propeller WOODCOMP SR3000 2WN

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h
Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	277 km/h
Take-off length 15 m obstacle, grass - concrete	400 m, 410 m
Rate of climb	3,32 m/s at 130 km/h
Rough airspeed V_{RA}	225 km/h

Engine ROTAX 912 ULS (73,5 kW / 100 HP), propeller HOFFMAN HO-V 352

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h
Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	270 km/h
Take-off length 15 m obstacle, grass - concrete	317 m, 325 m
Rate of climb	3,8 m/s at 130 km/h
Rough airspeed V_{RA}	225 km/h

Engine ROTAX 912 ULS (73,5 kW / 100 HP), propeller WOODCOMP SR200

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h

Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	270 km/h
Take-off length 15 m obstacle, grass - concrete	390 m, 397 m
Rate of climb	3,5 m/s at 120 km/h
Rough airspeed V_{RA}	225 km/h

Engine ROTAX 912 ULS (73,5 kW / 100 HP), propeller Kašpar KA-2/3-PA

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h
Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	270 km/h
Take-off length 15 m obstacle, grass - concrete	330 m, 340 m
Rate of climb	4,5 m/s at 120 km/h
Rough airspeed V_{RA}	225 km/h

Engine ROTAX 914 UL2 (84,5 kW / 112 HP), propeller WOODCOMP SR3000 2WN

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h
Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	277 km/h
Take-off length 15 m obstacle, grass - concrete	370 m, 380 m
Rate of climb	5 m/s at 120 km/h
Rough airspeed V_{RA}	225 km/h

Engine ROTAX 912 iS (73,5 kW / 100 HP), propeller WOODCOMP SR3000 2WN

Performance in ISA conditions.	Take-off mass 600 kg Airspeed CAS
Stall speed flaps extended V_{SO}	77 km/h
Stall speed flaps retracted V_{S1}	89 km/h
Max. speed – flaps extended (30°) V_{FE}	130 km/h
Design airspeed V_A	180 km/h
Max. horizontal flight airspeed V_H	250 km/h
Never exceed speed V_{NE}	277 km/h
Take-off length 15 m obstacle, grass - concrete	400 m, 410 m

Rate of climb	3,9 m/s at 130 km/h
Rough airspeed V_{RA}	225 km/h

4. CG position range

Limit front CG position: **21 % MAC**
 Limit aft CG position: **31,5 % MAC**

The reference plane is the leading edge of the wing, on the rib dividing the centerplane and the wing. The stroke of the bSAT is 127 mm. Middle aerodynamic chord - depth of the middle aerodynamic chord bSAT=1.294 m.

5. Flight load factors

Maximal positive / negative +4,0 / -2,0.

6. Power-plant

Rotax 912 ULS.

Maximal take-off power 73,5 kW/ 5800 min⁻¹ (max duration 5 min).
 Maximal continuous power 68,5 kW/ 5500 min⁻¹.

Rotax 914 UL2.

Maximal take-off power 84,5 kW/ 5800 min⁻¹ (max duration 5 min).
 Maximal continuous power 73,5 kW/ 5500 min⁻¹.

Rotax 912 iS.

Maximal take-off power 73,5 kW/ 5800 min⁻¹ (max duration 5 min).
 Maximal continuous power 68,5 kW/ 5500 min⁻¹.

7. Propellers

Adjustable hydraulic double-bladed in flight HOFFMANN HO-V 352.

Adjustable electric double-bladed in flight Woodcomp SR3000 2WN.

Adjustable electric double-bladed in flight Woodcomp SR200.

Adjustable hydraulic triple-bladed in flight Kašpar KA 2/3-PA.

8. Fuel

EUROSUPER RON 95 unleaded according DIN 51607,Ö- NORM 1100 AVGAS 100 LL.
 BA 95 Natural recommended in Czech republic.

9. Oil

Oil specification API SF(SG) or higher, designated for 4-stroke motorcycles (with gear lubrication additives).

10. Rescue parachute system

Magnum 601 installed according Stratos company standards.

IV. Operation and maintenance documents:

- Flight and maintenance manual together with appendix of optional equipment.
- Operation manual ROTAX 912.
- Propeller technical description and operation manual.
- Operation manual Magnum 601.
- Optional equipment manuals.

V. Annex:

- Glider airtows.

Max. Strength of the towing rope weak link 300daN +/- 30 daN.

MTOM of the towed glider 750 kg for propellers KA-2/5-PA.

MTOM of the towed glider 520 kg for others propellers according III.4.7.

Min. Speed during towing 110 km/hod.

Max. Rate of climb at the speed 120 km/hod.

Max. Speed during towing 156 km/hod (or according to glider).

Tow plane must comply with regulations of the Supplement III of the regulations UL-2 / section I. (additional requirements for UL tow planes). Procedures and limitations for airtows are included in the flight manual supplement.

- Supplement a).

Addition of Rotax 914UL2 engine with propeller Woodcomp SR30002WN.

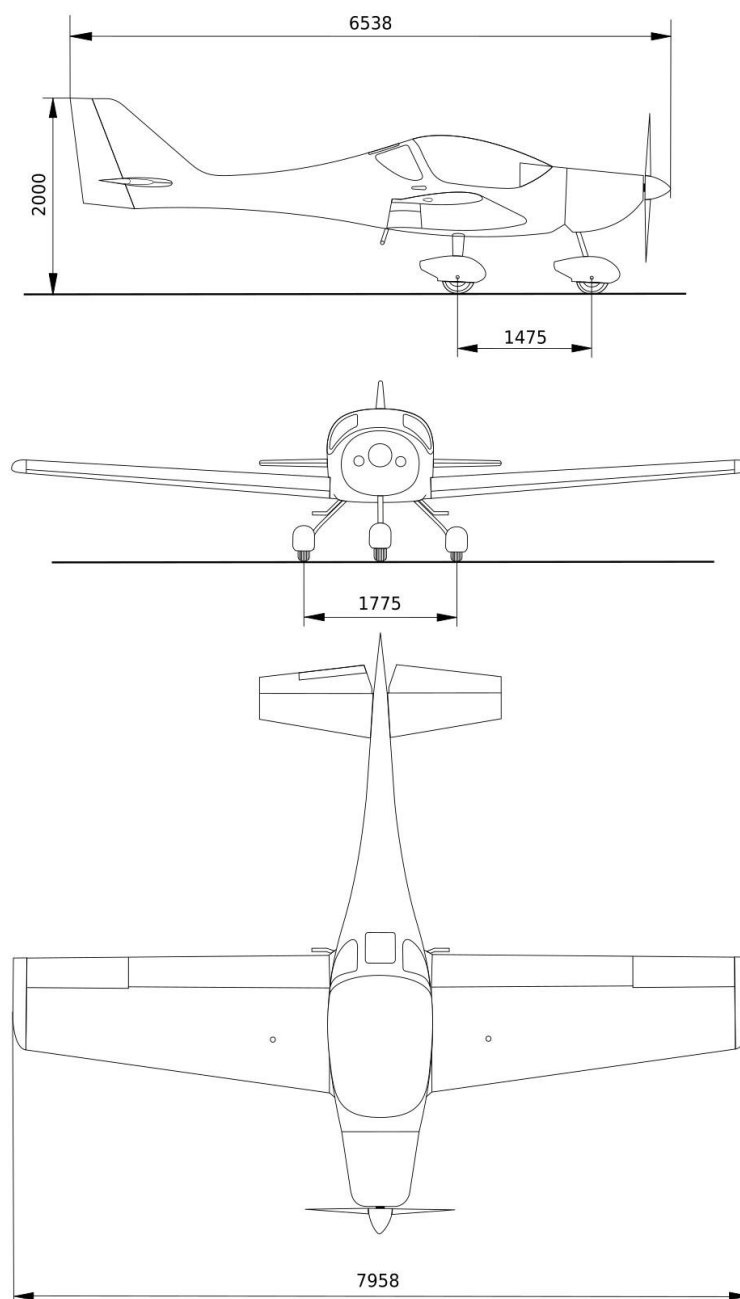
- Supplement b).

Addition of Rotax 914UL2 engine with propeller Woodcomp SR30002WN.

Notes:

1. Each aircraft must be equipped with actual weight and balance protocol with equipment list to issue airworthiness technical approval
2. Aircraft must be equipped with placards listed in flight manual

VI. 3-view FM250 Vampire 600 aircraft drawing according type definition.



-End-