# TYPE-CERTIFICATE

# DATA SHEET

NO. EASA.A.647

**for**
F2

**Type Certificate Holder**
Flight Design general aviation GmbH

Am Flugplatz 3
99820 Hörselberg-Hainich
Germany

For models: F2-CS23

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## SECTION A: MODEL F2-CS23

### A.I. General

| | |
|---|---|
| 1. Type/ Model/ Variant | |
| 1.1 Type | F2 |
| 1.2 Model | F2-CS23 |
| 1.3 Variant | n/a |
| 2. Airworthiness Category | CS23, Normal Category |
| 3. Manufacturer | FLIGHT DESIGN general aviation CZ s.r.o.<br>Příčná 3374/12<br>787 01 Šumperk<br>Czech Republic |
| 4. EASA Type Certification Application Date | 26 April 2018 |
| 5. State of Design Authority | n/a |
| 6. State of Design Authority Type Certificate Date | n/a |
| 7. EASA Type Certification Date | 08 December 2021 |

### A.II. EASA Certification Basis

| | |
|---|---|
| 1. Reference Date for determining the applicable requirements | 26 April 2018 |
| 2. Airworthiness Requirements | CS-23 [Certification Specifications for Normal Category Aeroplanes] Amdt. 5, dated 29 March 2017 (see note 1)<br>CS-ACNS, Issue 2, dated 26 April 2019 |
| 3. Special Conditions | none |
| 4. Exemptions | none |
| 5. (Reserved) Deviations | none |
| 6. Equivalent Safety Findings | none |
| 7. Environmental Protection | see TCDSN EASA.A.647 |

## A.III. Technical Characteristics and Operational Limitations

| | | |
|---|---|---|
| 1. | Type Design Definition | Flight Design Master Document List AM 0100 0005_03 or later approved revision |
| 2. | Description | Single engine, two-seated cantilever high wing airplane, composite construction, fixed tricycle landing gear, cruciform tail |
| 3. | Equipment | See Kinds of Operation Minimum Equipment in POH<br>Approved Equipment Variants see POH |
| 4. | Dimensions | Span 9.87 m<br>Length 6.86 m<br>Height 2.68 m<br>Wing Area 11.3 m² |
| 5. | Engine | |
| | 5.1. Model | Rotax 912 iSc2 Sport |
| | 5.2 Type Certificate | EASA.E.121 |
| | 5.3 Limitations | Refer to TCDS EASA.E.121 |
| 6. | Load factors | flaps up: n = +3.8<br>n = -1.5<br>flaps down: n = +2.0<br>n = 0.0 |
| 7. | Propeller | |
| | 7.1 Model | H-FSH_3-D-R_I_RX_C (DUC Helices FLASH-R) |
| | 7.2 Type Certificate | EASA.P.038 |
| | 7.3 Number of blades | 3 |
| | 7.4 Diameter | 173 +/- 1 cm |
| | 7.5 Sense of Rotation | clockwise, seen from pilot's point of view |
| 8. | Fluids | |
| | 8.1 Fuel | see POH section 2<br>see ROTAX Service Instruction SI-912i-001 |
| | 8.2 Oil | see POH section 2<br>see ROTAX Service Instruction SI-912i-001 |
| | 8.3 Coolant | see POH section 2<br>see ROTAX Service Instruction SI-912i-001 |
| 9. | Fluid capacities | |
| | 9.1 Fuel | total capacity: 2x 65 ltr in wing tanks<br>1x 5 ltr in header tank<br>usable capacity: 2x 64 ltr in wing tanks<br>1x 4 ltr in header tank |
| | 9.2 Oil | max. capacity: ca. 3.5 ltr |
| | 9.3 Coolant system capacity | max. capacity: ca. 2.5 ltr |
| 10. | Air Speeds | kEAS = kCAS (kIAS)<br>VS0 43 kCAS (40 kIAS)<br>VS 55 kCAS (53 kIAS) |

| | | | |
|---|---|---|---|
| | VFE | 80 kCAS | (77 kIAS) |
| | VO | 103 kCAS | (101 kIAS) |
| | VNO | 112 kCAS | (109 kIAS) |
| | VNE | 141 kCAS | (137 kIAS) |
| | | 141 kTAS | |

11. Flight Envelope — service ceiling 12 500 ft
12. Approved Operations Capability — Day - VFR
13. Maximum Masses — max. take-off mass 650 kg
14. Centre of Gravity Range

| | |
|---|---|
| front limit | 210 mm (18% MAC) |
| aft limit | 280 mm (24% MAC) |

15. Datum — wing leading edge at fuselage with aeroplane leveled as per section 14
16. Control surface deflections

| | | |
|---|---|---|
| 16.1 Elevator | up | 21 +/- 1° |
| | down | 18 +/- 1° |
| 16.2 Aileron | up | 20 +/- 1° |
| | down | 12 +/- 1° |
| 16.3 Rudder | left | 17 +/- 1° |
| | right | 17 +/- 1° |
| 16.4 Flaps | take-off | 15 +/- 1° |
| | landing | 35 +/- 1° |

17. Levelling Means
    - 17.1 Center of Gravity — center fuselage tunel in level position
    - 17.2 Control surface deflections — airfoil shape
18. Minimum Flight Crew — one pilot
19. Maximum Passenger Seating Capacity — one passenger
20. Baggage/ Cargo Compartments — one compartment behind the seats, max. 40kg
21. Wheels and Tyres
    - 21.1 Nose wheel — 5.00-5, type III, min 6PR, ETSO approved, see AMM
    - 21.2 Main wheels — 5.00-5, type III, min 6PR, ETSO approved, see AMM
22. (Reserved)

## A.IV. Operating and Service Instructions

| | | |
|---|---|---|
| 1. | Flight Manual | AM 0430 0004 Rev. 00 or later approved revision |
| 2. | Maintenance Manual | AM 0480 0005 Rev. 00 or later approved revision |
| 3. | Structural Repair Manual | not available |
| 4. | Weight and Balance Manual | see flight manual |
| 5. | Illustrated Parts Catalogue | not available |

## A.V. Notes

1. In order to show the compliance with the CS-23, Amdt. 5, certification basis, the AMC to CS-23 was complemented by following former Special Conditions/Equivalent Safety Findings (pre CS-23, Amdt. 5) that became Means of Compliance under CS-23 Amdt. 5:

a) SC-F23-1353-02-i01 Lithium Battery Installation
b) ELOS-VLA.0991-01 Electrical Fuel Pumps

**SECTION ADMINISTRATIVE**

## I. Acronyms & Abbreviations

CRI Certification Review Item
EASA European Aviation Safety Agency
kIAS Indicated Airspeed
kCAS Knoths Calibrated Indicated Airspeed
MAC Mean Aerodynamic Chord
POH Pilot's Operating Handbook
RPM Rotations per Minute
TCDS Type Certificate Data Sheet
VFR Visual Flight RulesType Certificate Data Sheet

## II. Type Certificate Holder Record

| TC Holder | Period |
|---|---|
| FLIGHT DESIGN general aviation GmbH<br>Am Flugplatz 3<br>99820 Hörselberg-Hainich<br>Germany | 08 December 2021 |

## III. Change Record

| Issue | Date | Changes | TC Issue No. & Date |
|---|---|---|---|
| Issue 01 | 08 Dec 2021 | Initial Issue | Initial Issue, 08 Dec 2021 |
| Issue 02 | 15 Mar 2022 | Correction of typo in MDL reference | Initial Issue, 08 Dec 2021 |
| Issue 03 | 31 Jan 2023 | Correction of Certification Basis: SC-F23-1353-02-i01 Lithium Battery Installation and ELOS-VLA.0991-01 Electrical Fuel removed.<br>Note 1 added. | Initial Issue, 08 Dec 2021 |
| Issue 4 | 12 November 2024 | Correction of the address of manufacturer – page 4 | Initial Issue, 08 Dec 2021 |

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