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

Intentionally left blank

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. Letiště Šumperk, 78803, Nový Malín 524 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) 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 Approved Equipment Variants see POH
4.	Dimensions	Span 9.87 m Length 6.86 m Height 2.68 m 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 n = -1.5 flaps down: n = +2.0 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 see ROTAX Service Instruction SI-912i-001
	8.2 Oil	see POH section 2 see ROTAX Service Instruction SI-912i-001
	8.3 Coolant	see POH section 2 see ROTAX Service Instruction SI-912i-001
9.	Fluid capacities	
	9.1 Fuel	total capacity: 2x 65 ltr in wing tanks 1x 5 ltr in header tank usable capacity: 2x 64 ltr in wing tanks 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) VS0 43 kCAS (40 kIAS) 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 Am Flugplatz 3 99820 Hörselberg-Hainich 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. Note 1 added.	Initial Issue, 08 Dec 2021

-END-