

European Aviation Safety Agency

EASA

**TYPE CERTIFICATE
DATA SHEET**

Cirrus Design SF50

Type Certificate Holder:

Cirrus Design Corporation
4515 Taylor Circle
Duluth, Minnesota 55811
United States of America

For models: SF50

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I. General

1. **Aeroplane** Cirrus Design SF50
2. **Data Sheet No:** EASA.IM.A.615
3. **Airworthiness Category:** CS-23 Normal Category.
4. **Certifying Authority:** Federal Aviation Administration
Chicago Aircraft Certification Office
2300 East Devon Avenue, Room
107
Des Plaines, IL 60018
United States of America
5. **Type Certificate Holder:** **Cirrus Design Corporation**
4515 Taylor Circle
Duluth, Minnesota 55811
United States of America
6. **Manufacturer:** **Cirrus Design Corporation**
4515 Taylor Circle
Duluth, Minnesota 55811
United States of America
7. **EASA Validation Application Date:** 15 January 2014
8. **FAA Type Certification Date:** 28 October 2016
9. **EASA Type Certification Date:** 18 May 2017

II. Certification Basis

- a. **Reference Date for FAA Certification:** **28 October 2013**
- b. **FAA Type Certificate Data Sheet No.** **A00018CH**

c. FAA Certification Basis:

14 CFR Part 23 effective February 1, 1965, as amended by Amendments 23-1 through 23-62

14CFR Part 34 effective September 10, 1990, as amended by Amendments 34-1 through 34-5

14 CFR Part 36 effective December 1, 1969 as amended by Amendments 36-1 through 36-28

Special Conditions in accordance with 14 CFR Part 11:

23-261-SC, Inflatable Three-Point Restraint Safety Belt with an Integrated Airbag Device

23-267-SC, Full Authority Digital Engine Control System

23-272-SC, Auto Throttle

23-275-SC, Whole Airplane Parachute Recovery System

Equivalent Level of Safety Findings in accordance with 14 CFR Part 21:

ELOS number, date and subject	Regulation modified by ELOS
ACE-14-06, dated April 10, 2014: Electronic Placards	§23.1559, §23.1567
ACE-15-04, dated February 27, 2015: Landing Gear Warning Horn	§23.729
ACE-15-14, dated June 25, 2015: Cockpit Control Knob Shape	§23.781(b)
TC06444CH-A-F-2, dated July 12, 2016: Spin Requirements	§23.221
TC06444CH-A-F-5, dated July 15, 2016: Amendment 62 Corrections	§23.45, §23.51, §23.63, §23.67, §23.73, §23.77, §23.161, §23.181, §23.221, §23.251, §23.253, §23.571, §23.785, §23.831, §23.1195, §23.1197, §23.1199, §23.1201, §23.1527, §23.1545, §23.1583
TC06444CH-A-S-11, dated June 23, 2016: Storage Battery Design and Installation	§23.1353(h)

Exemptions from 14 CFR Part 23 in accordance with 14 CFR Part 11:

Exemption No. 9948 dated October 23, 2009, §23.562(b) and §23.785(a), installation of seats limited to occupants weighing 90 pounds or less.

Exemption No. 11092 dated October 23, 2014, §23.177(b), use of electric roll trim for static lateral stability

Exemption No. 16970 dated June 23, 2016, §23.1419(a), 61-knot stall speed with critical ice accretions

Other Certification Basis:

Compliance has been shown for flight into known and forecast icing conditions

The SF50 has not received Group Approval for Reduced Vertical Separation Minimum (RVSM) operations

The SF50 is defined by Cirrus document E00000474, SF50 Master Drawing List

d. EASA Airworthiness Requirements:

CS 23	Amdt 3, Normal, Utility, Aerobatic, and Commuter Category Aircraft, dated 13 July 2012.
CS 34	Amdt 1, Aircraft Engine Emissions and fuel venting, Am 1, dated 23 January 2013.
CS 36:	Amdt 3, Aircraft Noise Am 3, dated 23 January 2013.
CS-ACNS	Airborne Communications, Navigation and Surveillance, Initial Issue dated 17 December 2013.
CS-FCD	Operational Suitability Data (OSD) Flight Crew Data, 31 January 2014
CS-MMEL	Master Minimum Equipment List, 31 January 2014

e. EASA Special Conditions:

SC-B23.div-01	Human Factors – Integrated Avionics Systems
SC-B23.0045-01	Performance
SC-B23.0049-01	Stall Speed
SC-B23.0143-01	Manoeuvre Margin
SC-B23.0201-01	Wings Level Stall
SC-B23.0203-01	Turning Flight and Accelerated Turning Stalls
SC-B23.0253-01	Airborne Deceleration Devices
SC-B23.0253-01	High Speed Characteristics
SC-B23.1587-01	Landing Distance Factors
SC-C23.0571-01	Sonic Fatigue
SC-D23.0703-01	Take-off Warning System
SC-D23.0731-01	Wheels
SC-D23.0783-02	Doors
SC-E23.0901-01	Turbine Engine Installation
SC-E23.0967-01	Fuel Tank Crashworthiness
SC-E23.1093-01	Cold Soaked Fuel
SC-E23.1183-01	Lines, fittings and components
SC-E23.1195-01	Powerplant Fire Protection and Fuel Systems
SC-F23.1309-02	Protection from the Effect of HIRF
SC-F23.1309-03	Protection from the Effects of Lightning Strike, Indirect Effects
SC-F23.1353-01	Battery Endurance Requirements

f. EASA Exemptions:

none

g. EASA Equivalent Safety Findings:

90lb Seats outlined in Exemption No. 9948
 Electronic Placards (FAA ACE 14-06)
 Landing Gear Warning Horn (FAA ACE 15-04)
 Control Knob Shape (FAA ACE 15-14)
 Spin Requirements (TC6444 CH-A-F2)

h. EASA Environmental Standards:

CS 34 - Aircraft Engine Emissions and Fuel Venting, of 23 January 2013
 CS 36 - Aircraft Noise, of 23 January 2013;

III. Technical Characteristics and Operational Limitations

1. **Type Design Definition:** Defined by Report E00000474, SF50 Master Drawing List

2. **Description:** Single turbofan airplane with low wing and V-tail configuration.
The fuselage and wing are primarily of composite construction. The tricycle configuration landing gear is retractable with a single wheel at each location.

3. **Dimensions:**

Length	9.36 m	(30.7 ft)
Span	11.67 m	(38.3 ft)
Height	3.23 m	(10.9 ft)
Wing Area	18.18 m ²	(195.7 ft ²)

4. **Engine:** One (1) Williams International FJ33-5A turbofan engine Type Certificate E3GL
5. **Fuel:** Jet A, Jet A-1 or JP-8
6. **Oil:** Refer to applicable manuals
7. **Engine Limits:**

Thrust Setting	ITT °C	N1 RPM (%)	N2 RPM (%)	Thrust (lb)
Takeoff	877 (10 Sec)	23,566 (104.74%)	51,703 (100.39%)	1846
	862 (5min)			
Max Continuous	836	23,791 (105.74%) for 30 sec	51,844 (100.67%) for 30 sec.	1846

8. **Airspeeds:**

V_{MO}	Maximum Operating Speed	250 KIAS
M_{MO}	Maximum Operating Mach Number	0.53 Mach
V_O	Operating Manoeuvring Speed	150 KIAS
$V_{FE\ 50\%}$	Maximum Flap Extended Speed (50% flaps)	190 KIAS
$V_{FE\ 100\%}$	Maximum Flap Extended Speed (100% flaps)	150 KIAS
V_{LE}	Maximum Landing Gear Extended Speed	210 KIAS
V_{LO_Extend}	Maximum Landing Gear Extension Speed	210 KIAS
$V_{LO_Retract}$	Maximum Landing Gear Retract Speed	150 KIAS

9. **Maximum Operating Altitude:** 8534 m (28,000 ft) MSL
10. **Operational Capability:** Single Pilot / Two Pilots
VFR Day and Night IFR
Day and Night
11. **Maximum Certified Weights:** Ramp: 2740 kg (6040 lb)
Takeoff: 2722 kg (6000 lb)
Landing: 2517 kg (5500 lb)
Zero Fuel: 2223 kg (4900 lb)
12. **Centre of Gravity:** See Airplane Flight Manual
13. **Datum:** 2.26 m (89.0 in) in front of the forward cabin bulkhead
14. **reserved**
15. **Leveling Means:** Refer to the Airplane Maintenance Manual (31448-001)
16. **Minimum Flight Crew:** One (1) Pilot
17. **Number of Seats:** Maximum 7. Refer to the Airplane Flight Manual for seat configurations, moment arms and limitations.
18. **Baggage / Cargo Compartment:** Combined 136 kg (300 lb)
For loading distribution, refer to the Airplane Flight Manual (31452-001)

IV. Operating and Servicing Instructions

1. Airplane Flight Manual (AFM):

Airplanes must be operated according to the EASA approved AFM, Document Number 31452-001E (or later EASA approved revision).

The Airplane Flight Manual (AFM) may be installed in the airplane in hardcopy format or on a portable device in electronic format in accordance with the limitations in the AFM. The electronic format has the same base and dash number as the hardcopy format and includes "eAFM" after the dash number.

2. Airplane Maintenance Manual (AMM):

Continuing airworthiness limitations are included in Section 4 of the (AMM) Document Number 31448-001 or later revision. Chapter 4, "Airworthiness Limitations" may not be changed without the approval of EASA.

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

- a) 39457-001 EASA Master Minimum Equipment List, Original Issue or later approved revision.
- b) Required for entry into service by EU operator.

2. Flight Crew Data

- c) E00001811, Rev A EASA Operational Suitability Data, Flight Crew, original or later approved revision.
- d) Required for entry into service by EU operator.
- e) Pilot Type Rating: SF50

VI. Production Basis

Production Certificate 338CE issued 12 June 2000, Amended 03 January 2017
Production Limitation Record Issued 12 June 2000, Amended 01 May 2017

VII. Notes

NOTE 1 - Noise

For further details to noise please refer to TCDS-N IM.A.615

NOTE 2 - Weight and balance.

A current weight and balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

NOTE 3 - Markings and placards.

All markings and placards required by either the EASA-approved Airplane Flight Manual (Document No. 31452-001), the applicable operating rules, or the certification basis must be installed as specified.

VIII. Administrative Section

- i. Acronyms**
- ii. Type Certificate Holder Records**
- iii. Change Record**

Issue 1	18 May 2017	Initial issue SF50
Issue 2	18 Aug 2017	MMEL included

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