TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.639

for
DA 50

Type Certificate Holder
Diamond Aircraft Industries GmbH

Nikolaus-August-Otto-Straße 5
2700 Wiener Neustadt
Austria

For models: DA 50 C
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SECTION A: DA 50 C
A.I. General
A.II. EASA Certification Basis
A.III. Technical Characteristics and Operational Limitations
A.V. Notes

SECTION ADMINISTRATIVE
I. Acronyms & Abbreviations
II. Type Certificate Holder Record
III. Change Record
SECTION A: DA 50 C

A.I. General

1. Type/ Model/ Variant
   1.1 Type DA 50
   1.2 Model DA 50 C
   1.3 Variant -

2. Airworthiness Category CS 23 Normal Category

3. Manufacturer Diamond Aircraft Industries GmbH
   Nikolaus-August-Otto-Straße 5
   2700 Wiener Neustadt
   Austria

4. EASA Type Certification Application Date
   25-Nov-2016

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements 14-Aug-2017
   see Note 2

   CS-ACNS, Initial Issue, issued 17-Dec-2013
   For aircraft equipped with the factory installed Anti-icing system
   the requirements are listed below:
   CS-23 Amendment 5:
   23.2005, 23.2010,
   23.2165 with AMC1 ASTM F3120/F3120M-15 Section A1.4 and
   A2.4 (SLD icing conditions for aircraft not approved for
   operation in SLD icing conditions) for SLD “detect and exit” and
   AMC2 CS-23 Amdt 4 23.1419 Ice Protection,
   23.2415 with AMC2 CS-23 Amdt 4 23.929, 23.975, 23.997,
   23.1093, 23.1105,
   23.2540 with AMC2 CS-23 Amdt 4 23.1323, 23.1325(b), (g),
   23.1419, 23.775(f)

3. Special Conditions
   SC-23.0973-01, i1 Fuel Tank Filler Connection
   SC-23.0977-01, i1 Fuel Tank Outlet
   SC-23.0951-01, i1 Fuel Water Absorption
   SC-23.1557-01, i1 Markings and Placards
   SC-23.1305-01, i1 Powerplant Instruments
A.III. **Technical Characteristics and Operational Limitations**

1. **Type Design Definition**
   Doc. No. 9.07.00, Chapter V002/7, latest effective issue

2. **Description**
   Single engine, five-seat, low wing cantilever composite construction aircraft with T-tail empennage configuration and retractable tricycle landing gear.

3. **Equipment**
   Equipment list, see AFM Chapter 06

4. **Dimensions**
<table>
<thead>
<tr>
<th>Span</th>
<th>13.41 m</th>
<th>(44 ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>9.24 m</td>
<td>(30.31 ft)</td>
</tr>
<tr>
<td>Height</td>
<td>2.95 m</td>
<td>(9.69 ft)</td>
</tr>
<tr>
<td>Wing Area</td>
<td>16.43 m²</td>
<td>(176.85 sqft)</td>
</tr>
</tbody>
</table>

5. **Engine**
   5.1. **Model**
   Continental Centurion 3.0
   5.2 **Type Certificate**
   EASA.E.104
   5.3 **Limitations**
   Take-off speed 2340 r.p.m.
   Max. continuous speed 2300 r.p.m.
   Max. T/O Power (5 min) 221 kW
   Max. continuous Power 200 kW
   For power-plants limits refer to AFM, Chapter 2

6. **Load factors**
   at Vₐ at Vₙₑ with flaps in T/O or LDG position
   Positive: 3.8 3.8 2.0
   Negative: -1.52 0 0

7. **Propeller**
   7.1 **Model**
   MT-propeller MTV-12-D/210-56
   7.2 **Type Certificate**
   EASA.P.013
   7.3 **Number of blades**
   3
   7.4 **Diameter**
   2100 mm
   7.5 **Sense of Rotation**
   CW

8. **Fluids**
   8.1 **Fuel**
   Jet A-1 (ASTM 1655), see Note 6
   8.2 **Oil**
Engine: AeroShell Oil Diesel Ultra
or see AFM, Chapter 02
Gearbox: CENTURION Gearbox Oil N1
or see AFM, Chapter 02

8.3 Coolant Water / Radiator Protection, for more details see AFM, Chapter 2

9. Fluid capacities

9.1 Fuel

| LH Fuel Tank | Total: 98.4 liters (26 US Gallons) | Usable: 94.6 liters (25 US Gallons) |
| RH Fuel Tank | Total: 96.5 liters (25.5 US Gallons) | Usable: 90.8 liters (24 US Gallons) |

9.2 Oil 12 l

9.3 Coolant system 12 l

10. Air Speeds

Operating Manoeuvring Speed $V_O$
- up to 1650 kg 117 KEAS
- 1651 to 1850 kg 123 KEAS
- Above 1850 kg 131 KEAS

Flap Extended Speed $V_{FE}$
- Take-Off 130 KEAS
- Landing 118 KEAS

Maximum Landing Gear Operation Speed $V_{LO}$ 160 KEAS

Maximum Landing Gear Extended Speed $V_{LE}$ 160 KEAS

Maximum structural cruising speed $V_{NO}$

Never exceed speed $V_{NE}$ 189 KEAS

11. Flight Envelope

Maximum Operating Altitude (MSL) 20,000 ft (6096 m)
Refer to Airplane Flight Manual.

12. Approved Operations Capability

VFR (Day, Night), IFR
Flight into known or forecast icing conditions See Note 8

13. Maximum Masses

| Maximum take-off mass | 1999 kg (4407 lb) |
| Minimum flight mass | 1480 kg (3263 lb) |
| Maximum zero fuel mass | 1900 kg (4189 lb) |
| Maximum landing mass | 1999 kg (4407 lb) |

14. Centre of Gravity Range

Most forward flight CG: 2.315 m aft of datum plane at 1480 kg
2.315 m aft of datum plane at 1750 kg
2.420 m aft of datum plane at 1999 kg

Straight line variation between indicated points.
Most rearward flight CG:  
2.355 m aft of datum plane at 1480 kg  
2.458 m aft of datum plane at 1645 kg  
2.470 m aft of datum plane at 1999 kg  
Straight line variation between indicated points.

15. Datum  
2.196 m forward of the most forward point of the root rib on the stub wing.  
See Note 7

16. Control surface deflections

<table>
<thead>
<tr>
<th>Surface</th>
<th>Deflection</th>
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<tbody>
<tr>
<td>Aileron</td>
<td>Trailing edge up</td>
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<tr>
<td></td>
<td>Trailing edge down</td>
</tr>
<tr>
<td>Elevator</td>
<td>Trailing edge up</td>
</tr>
<tr>
<td></td>
<td>Trailing edge down</td>
</tr>
<tr>
<td>Elevator Trim Tab</td>
<td>Nose up at elevator neutral</td>
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<tr>
<td></td>
<td>Nose down at elevator neutral</td>
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<tr>
<td>Rudder</td>
<td>Left</td>
</tr>
<tr>
<td></td>
<td>Right</td>
</tr>
<tr>
<td>Rudder Trim Tab</td>
<td>Trim RH at rudder neutral</td>
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<tr>
<td></td>
<td>Trim LH at rudder neutral</td>
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<tr>
<td>Flaps</td>
<td>Cruise flap setting</td>
</tr>
<tr>
<td></td>
<td>Take-Off flap setting</td>
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<tr>
<td></td>
<td>Landing flap setting</td>
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</tbody>
</table>

17. Levelling Means  
LH door frames, see note 7.

18. Minimum Flight Crew  
1 (Pilot)

19. Maximum Passenger Seating Capacity  
4

20. Baggage/ Cargo Compartments behind passenger seat row  
90 kg (198 lb.)

21. Wheels and Tyres  
Nose Wheel Tyre Size 5.00-5 see AFM  
Main Wheel Tyre Size 6.00-6 see AFM

A.IV. Operating and Service Instructions

1. Flight Manual  
Airplane Flight Manual Document No. 9.01.01-E

Airplane Maintenance Manual Document No. 9.02.01

incl. in AMM 9.02.01 Chapter 51-20

incl. in AMM 9.02.01 Chapter 08

5. reserved
A. V. Notes

1. Serial Numbers Eligible: 50.002, 50.003, 50.006, 50.C.A.A.007 and subsequent
2. Diamond Aircraft has been granted a 4 month extended validity time for the certification basis reference date.
3. Approved Noise Levels in accordance to the EASA data sheet for noise TCDSN.A.639.
4. For approved software versions of Gamin G1000 Integrated Avionic System see DAI MSB 50-003, at latest issue.
5. Approved engine model for installation in the DA 50:
   Continental Centurion 3.0 (sales designation CD-300)
   The approved firmware and mapping is according to DAI MSB 50-002 at latest issue.
6. For additional approved Jet Fuel specifications see AFM Chapter 2.
7. For the approved aircraft leveling tool and procedure see AMM Chapter 8.
8. Flights into known or forecast icing conditions is approved, if the ice protection system in accordance to Design Change OÄM 50-011 is installed.
SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

AFM  Airplane Flight Manual
AMM  Airplane Maintenance Manual
ICAO  International Civil Aviation Organization
IFR  Flight Rules under IMC
LH  Left Hand
MÄM  Mandatory Design Change Advisory
MSB  Mandatory Service Bulletin
MSL  Mean Sea Level
RH  Right Hand
RPM  Revolutions per minute
T/O  Take-Off
VFR  Flight Rules under VMC

II. Type Certificate Holder Record

Diamond Aircraft Industries GmbH
Nikolaus-August-Otto-Straße 5
2700 Wiener Neustadt
Austria

III. Change Record

<table>
<thead>
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<th>Date</th>
<th>Changes</th>
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<td>Initial Issue</td>
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<td>Issue 02</td>
<td>26 May 2021</td>
<td>A.II. 7. – Editorial correction.</td>
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<td>A.III 17 re-reference corrected</td>
<td>01 Mar 2023</td>
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