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# 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**

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
2. Airworthiness Requirements	CS-23, Amendment 4, issued 15-Jul-2015 CS-ACNS, Initial Issue, issued 17-Dec-2013	
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	
SC-23.1521-01, i1	Powerplant Limitations	
SC-23.1309-01, i1	Cyber Security	
SC-F23.1353-01, i2	Battery Endurance	
4. Exemptions	None	
5. Deviations	CRI F-107 -Continuity requirements for ADS-B	
6. Equivalent Safety Findings		
CRI E-73	Liquid Cooling – Tank Volume	
7. Environmental Protection	see TCDSN EASA.A.636	



### 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	Span	13.41 m	(44 ft)
	Length	9.24 m	(30.31 ft)
	Height	2.95 m	(9.69 ft)
	Wing Area	16.43 m <sup>2</sup>	(176.85 sqft)
5. Engine			
5.1. Model	Continental Centurion 3.0	see Note 5	
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 V <sub>A</sub>	at V <sub>NE</sub>	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 $V_{NO}$ (= Maximum structural design speed $V_C$ )		
		150 KEAS	
	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 is prohibited.		
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	Aileron		
	Trailing edge up	25°	±2°
	Trailing edge down	15°	+2-0°
	Elevator		
	Trailing edge up	18.5°	±0.5°
	Trailing edge down	15°	±1°
	Elevator Trim Tab		
	Nose up at elevator neutral	+28°	±5°



	Nose down at elevator neutral	-25°	±5°
Rudder	Left	20°	±1°
	Right	25°	±1°
Rudder Trim Tab	Trim RH at rudder neutral	+35°	±2°
	Trim LH at rudder neutral	-13°	±2°
Flaps	Cruise flap setting	0°	±1°
	Take-Off flap setting	20°	±1°
	Landing flap setting	38°	±1°
17. Levelling Means	LH door frames, see note 6.		
18. Minimum Flight Crew	1 (Pilot)		
19. Maximum Passenger Seating Capacity	4		See note 1B.
20. Baggage/ Cargo Compartments	N/A		
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
2. Maintenance Manual Airplane Maintenance Manual Document No. 9.02.01
3. Structural Repair Manual incl. in AMM 9.02.01 Chapter 51-20
4. Weight and Balance Manual 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
- 1A. All open items on the Open Item Tracking List Doc. No. 9.07.00 V002/2 (not public) must be closed prior to issuing an individual Certificate of Airworthiness.
- 1B. Until item 11/01 on the Open Item Tracking List Doc. No. 9.07.00 V002/2 (not public) is closed, the passenger seat row must not be occupied
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.



## **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**

<b>Issue</b>	<b>Date</b>	<b>Changes</b>	<b>TC Issue No. &amp; Date</b>
Issue 01	27 Aug 2020	Initial Issue	Initial Issue, 27 Aug 2020

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