Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00012

For
DA 50

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

For models: DA 50 C
Issue: 2
Date of issue: 28 September 2022

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 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
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 UK-CAA TCDSN ref UK.TC.A.00012.

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 m²	(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_A	at V_{NE}	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 forcast 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				
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 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
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
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 UK CAA data sheet for noise UK.TC.A.00012.
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 levelling 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 2 ADMINISTRATIVE

I. Acronyms & Abbreviations

AFM	Airplane Flight Manual
AMM	Airplane Maintenance Manual
CAA	UK-CAA
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
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet Noise
TCH	Type Certificate Holder
T/O	Take-Off
VFR	Flight Rules under VMC

II. Type Certificate Holder Record

Diamond Aircraft Industries GmbH **Present**
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2700 Wiener Neustadt
Austria

EXPLANATORY NOTE

This Type-Certificate Data Sheet (TCDS) is the definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

This TCDS includes:

1. Details of the type design that affect the TCDS that have been approved or accepted by the CAA in the UK since 01 January 2021.
2. Details of the type design that affected the TCDS and were approved or accepted by EASA before 01 January 2021, but were only incorporated into EASA TCDS EASA.A.639 after 01 January 2021 and before the issue of this CAA TCDS (UK.TC.A.00012 Issue 1, dated 20 August 2021) and are therefore accepted by the UK under the Withdrawal Act 2018.

III. Change Record

I.

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	20 Aug 2021	This TCDS supersedes EASA.A.639. All technical data takenfrom EASA.A.639 Issue 2. Introduction of Major Change approval 10076557 – Completionof Open Item Tracking List and Major Change approval 10076564 – Baggage Compartment Installation. Baggage limitation added and some Notes removed as per EASA.A.639 Issue 2.	Issue 1 20 Aug 2021
2	28 Sept 2022	Approval of Major Change for flights into known or forecast icing conditions is approved, if the ice protection system in accordance to Diamond Aircraft Industries Design Change OÄM 50-011 is installed. (Approval UK.MAJ.00168)	N/A

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