



**AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL**

**TYPE CERTIFICATE DATA SHEET Nº EA-2010T04**

Type Certificate Holder:

**DIAMOND AIRCRAFT INDUSTRIES GMBH**  
N.A. Otto-Str. 5  
Wiener Neustadt – A-2700  
**AUSTRIA**

EA-2010T04-00  
Sheet 01

DIAMOND  
DA 42 M-NG

30 March 2010

This data sheet, which is part of Type Certificate No. 2010T04, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

**I – DA 42 M-NG (Restricted Category), approved 05 March 2010.**

<b>ENGINE</b>	2 Austro Engine E4 (CHT 2010T01)
<b>FUEL</b>	Jet A1, Jet A
<b>ENGINE LIMITS</b>	Max. takeoff 2 300 RPM Max. Continuous 2 100 RPM
<b>OIL</b>	Engine: Shell Helix Ultra 5W30 or 5W40 or see AFM Gearbox: Shell SPIRAX GSX 75W-80 or see AFM
<b>PROPELLER AND PROPELLER LIMITS</b>	2 MT-Propeller MTV-6-R-C-F/CF187-129 (2005T03)  Low pitch setting: 12° Feather position: 81° Start lock: 15°
<b>AIRSPEED LIMITS (IAS)</b>	Never exceed speed ( $V_{NE}$ ): 188 kias Maneuvering ( $V_A$ ) - : Up to 1 700 kg 112 kias Above 1 700 kg to 1 800 kg 119 kias Above 1 800 kg 122 kias Max. Structural Cruising speed ( $V_{NO}$ ): 151 kias Flaps extended ( $V_{FE}$ ) (landing): 113 kias (Approach): 133 kias Minimum control speed - Air ( $V_{MCA}$ ): 76 kias L. G. operation - extend ( $V_{LO}$ ): 188 kias L. G. operation - retract ( $V_{LO}$ ): 152 kias L. G. extended ( $V_{LE}$ ): 188 kias

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<b>CG RANGE</b>	Forward limits: At 1 510 kg - 2.357 m behind Datum At 1 900 kg – 2.418 m behind Datum Varying linearly with mass in between  Rear limit: At 1 510 kg – 2.460 m behind Datum At 1 700 kg and above – 2.480 m behind Datum Varying linearly with mass in between		
<b>DATUM</b>	2.196 m in front of leading edge of stub-wing at wing joint		
<b>LEVELING MEANS</b>	Floor of front baggage compartment leveled		
<b>MAXIMUM WEIGHT</b>	Takeoff:	1 900 kg	
	Landing:	1 805 kg	
	Zero Fuel:	1 765 kg	
<b>MINIMUM CREW</b>	1 pilot		
<b>MAXIMUM PASSENGERS</b>	3		
<b>MAXIMUM BAGGAGE</b>	Front Baggage Compartment:	30 kg	
	Behind Rear Seat:	45 kg	
	Aft part of Baggage Extension:	18 kg	
	Whole aft Baggage Compartment together:	45 kg	
<b>FUEL CAPACITY</b>	Standard fuel tank: Total - 196.8 liters Usable - 189.2 liters  Auxiliary fuel tank: Total - 104 liters Usable – 100 liters		
<b>OIL CAPACITY</b>	Each engine: Maximum – 7 liters Minimum – 5 liters		
<b>ANTI-ICE FLUID</b>	AL-5 (DTD 406B) or Aeroshell Compound 07. For more details see AFM Suppl. S02		
<b>MAXIMUM OPERATING ALTITUDE</b>	5 486 m (18 000 ft)		
<b>CONTROL SURFACE MOVEMENTS</b>	Elevator:	Up 15.5° ±0.5°	Down 13° ±1°
	Elevator trim tab:	+17° ±5°	Nose up at elevator 10° up
		-35° ±5°	Nose down at elevator 10° up
	Rudder:	Right 29° ±1°	Left 27° ±1°
	Rudder trim:	+54° ±5°	Trim RH at rudder 20° LH
		+22° ±5°	Trim LH at rudder 20° LH
	Aileron:	Up 25° ± 2°	

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Wing flaps:	Cruise Flap setting:	0°, +2° -0°
	Approach:	20°, +4° -2°
	Landing:	42°, +3° -1°

**SERIAL NUMBER ELIGIBLE**

42.MN001 and subsequent.

A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

**IMPORT ELIGIBILITY**

A Brazilian Certificate of Airworthiness may be issued on the basis of on an EASA Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

"The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2010T04 and in condition of safe operation".

The ANAC Report H.10-2240-00, dated 30 March 2010 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See note 4)

**CERTIFICATION BASIS**

Brazilian Type Certificate No. 2010T03 issued on 30 March 2010 based on the RBHA 21.29, including the following requirements.

- RBHA 23 (corresponding to FAR Part 23 including amendments 1 thru 55),
- RBHA 36 (corresponding to ICAO Annex 16, Vol. I, third edition, 1993, amdt. 7),
- and including the following EASA Special Conditions and EASA Equivalent Safety Findings listed in EASA certification basis and endorsed by ANAC:

EASA Special Conditions:

- CRI D-02, Variable Elevator Stop
- CRI E-02, Use of Jet Fuel for Reciprocating Engines
- CRI E-04, Liquid Cooling – Coolant Tank
- CRI E-05, Electronically controlled Reciprocating Diesel Engine
- CRI E-06, Engine Vibration Level
- CRI E-07, Engine Torque
- CRI F-01, Protection from the Effects of HIRF
- CRI F-03, Protection from the Effects of Lightning Strikes, Indirect Effects
- CRI F-04, Power plant Instruments
- CRI F-05, Installation of FADEC reciprocating Diesel engine and propeller
- CRI F07, Human Factors in Integrated Avionic System
- CRI F08, Equipment Qualification for Mission Equipment
- CRI F09, Safety Provisions for Mission Equipment

EASA Equivalent Safety Findings:

- CRI E-10, Electrical Fuel Pump
- CRI F-10, Automatic Electric Load Shedding

**REQUIRED EQUIPMENT**

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be

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installed in the airplane.

**DATA PERTINENT TO ALL MODELS:**

**NOTES:**

- NOTE 1**     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.  
The certificated empty weight and corresponding center of gravity location must include full oil, coolant and unusable fuel.
- NOTE 2**     Markings and placards. The placards specified in the approved Aircraft Flight Manual, including the placards in Portuguese specified in the Aircraft Flight Manual Supplement N023 must be displayed.
- NOTE 3**     Continuing Airworthiness. Instruction for Continued Airworthiness and Service Life Limited components is included in the Maintenance Manual Document No. 7.02.15 including Supplement M00. Revisions to Airworthiness limitation must be approved by EASA.
- NOTE 4**     The differences of the Brazilian airplanes in relation to the basic EASA type design are summarized below:  
1. The Brazilian Airplane Flight Manual cover page  
2. Markings and placards listed in Aircraft Flight Manual Supplement N023
- NOTE 5**     For approved software versions of Garmin G1000 Integrated Avionics System see DAI MSB 42NG-003, at latest issue. Garmin Software PN 010-00670-01 or later approved version is required.
- NOTE 6**     Approved engine model for installation in the DA 42 M-NG: E4-B  
The approved firmware and mapping is according to DAI MSB 42NG-002 at latest issue.
- NOTE 7**     Propeller Equipment: Governor: P-877-16
- NOTE 8**     Flight into known or forecast icing conditions is prohibited if provisions for additional mission equipment (NOTE 9) are installed.
- NOTE 9**     The Basic DA42 M-NG does not include provisions for specific mission purpose. The following optional major design changes for specific missions as a provision for installation of mission equipment are approved.

OÄM 42-168 belly Pod

The following additional Limitations apply:

Flight into known or forecast icing condition prohibited

Maximum load in the belly pod:

80 kg

Minimum flight mass:

1 510 kg

Minimum Crew for mission operations:

1 pilot + 1 operator

AFM and AMM Supplement M01 must be furnished.

OÄM 42-169 Universal Nose

The following additional Limitations apply:

Flight into known or forecast icing condition prohibited

Maximum load in Universal Nose:

65 kg

Maximum load in Underfloor Pod:

20 kg

Minimum flight mass: 1 510 kg  
Minimum Crew for mission operations: 1 pilot + 1 operator  
Most rearward flight CG: 2,45 m aft of Datum at 1 510 kg  
2,47 m aft of Datum at 1 700 kg  
2,47 m aft of Datum at 1 900 kg  
Linear variation in between

AFM and AMM Supplement M30 must be furnished.  
Maximum operating speed with Equipment installed 156 KIAS

OAM 42-170 Nose Pod

The following additional Limitations apply:

Flight into known or forecast icing condition prohibited

Maximum load in Nose Pod: 85 kg

The use load in the Nose Pod may lead to Trim Weight installations in the lower vertical tail

Maximum load in rear equipment compartment: 93 kg

Minimum flight mass: 1 510 kg

Minimum Crew for mission operations: 1 pilot + 1 operator

Most rearward flight CG: 2,44 m aft of Datum at 1 510 kg

2,46 m aft of Datum at 1 700 kg

2,46 m aft of Datum at 1 900 kg

Linear variation in between

AFM and AMM Supplement M60 must be furnished.  
Maximum operating speed with Equipment installed 156 KIAS

- NOTE 10** The specific mission equipment and its installation are not part of the DA42 M-NG certification. Installation must be approved using the relevant AMM Supplement and the qualification criteria of CRI F-08 "Equipment Qualification for Mission Equipment".
- NOTE 11** Additional Limitation to the Baggage Compartment payload may apply after installation of mission equipment, these are included in the relevant Flight Manual Supplement.
- NOTE 12** Additional Limitations/Requirements for the flight Crew/Operator or passage may apply when the specific mission changes are installed. These Limitations are included in the relevant AFM Supplement.
- NOTE 13** Compliance to ICAO Requirements (Annex 8) has been demonstrated for the basic DA42 M-NG and its approved provisions only. For the mission equipment itself and its installation, demonstration of compliance to ICAO Annex 8 must be part of the individual installation approval otherwise this airplane does not comply to ICAO requirements.
- NOTE 14** DA 42 M model may be converted to DA 42 M-NG model by DAI approved SB OSB 42-081.

**ADEMIR ANTÔNIO DA SILVA**  
Gerente-Geral de Certificação de Produto Aeronáutico  
(Manager, Aeronautical Product Certification)