TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.072

for
DG-1000

Type Certificate Holder
DG Aviation GmbH

Otto-Lilienthal-Weg 2
D-76646 Bruchsal
Germany

For models: DG-1000S
DG-1000T
DG-1000M
DG-1001E
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Section A: **DG-1000S**

### A.I General

1. **Type/ Model/ Commercial Designation**
   
   1.1 **Type:** DG-1000
   
   1.2 **Model:** DG-1000S
   
   1.3 **Commercial Designation:** DG-1000S or DG-1001S

2. **Airworthiness Category**

   Sailplane, JAR 22 – Utility and Aerobatic

3. **Manufacturer**

   DG-Flugzeugbau GmbH
   
   Otto-Lilienthal-Weg 2
   
   D-76646 Bruchsal
   
   Germany

   Volocopter Production GmbH
   
   Otto-Lilienthal-Weg 2
   
   D-76646 Bruchsal
   
   Germany

4. **State of Design Certification Application Date**

   June 6, 1996

5. **EASA Type Certification Date**

   March 12, 2002

6. **This TCDS cancels and replaces LBA TCDS No 413**

### A.II EASA Certification Basis

1. **Certification Basis**

   Defined by LBA letter I 412-413/96, dated July 30, 1996

2. **Airworthiness Requirements**

   Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Change 5, issued October 28, 1995

3. **Requirements elected to comply**

   Preliminary guideline for the stress analysis of glass- fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991

4. **Special Conditions**

   SC-D22-D01 – hand rudder control

5. **Exemptions**

   None

6. **Equivalent Safety Findings**

   JAR 22.207 (c)

7. **Environmental Protection**

   N/A
A.III  Technical Characteristics and Operational Limitations

1. Type Design Definition
   Master Drawing List DG-1000S, issued February 2002, LBA approved

2. Description
   Two-seater, self-supporting midwing, sailplane, conventional T-type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP, water ballast tank and ballast box in the fin (optional), with spring mounted retractable central main landing gear, tail wheel or spring mounted retractable central main landing gear, nose wheel, tail wheel or spring mounted fixed central main landing gear, nose wheel, tail wheel.
   Wing constructed from CFRP, Schempp-Hirth air-brakes on upper wing surface, waterballast in the wings.
   The wings of the DG-1000S are made of carbon fibre reinforced plastics with a parting at y= 8.6m, there are four types of wing tips available with different spans:
   A) Wing elongations with 20 m span with winglets
   B) Wing tips with 18 m span without winglets
   C) Wing tips with 18 m span with winglets
   D) End plates for 17.2 m span

3. Equipment
   Minimum Equipment:
   - 1 Air speed indicator (up to 300 km/h)
   - 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
   - 2 4-Point harness (symmetrical)
   - 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed
   - 1 Outside air temperature gauge
   - 1 Battery Z110 or a weight of 5.5 kg in the battery box in the vertical fin

   Additionally for operation in Airworthiness category aerobatic:
   - 1 Accelerometer capable of retaining min. and max. g-values
4. Dimensions

<table>
<thead>
<tr>
<th></th>
<th>17.20 m</th>
<th>18.00 m</th>
<th>20.00 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length:</td>
<td>8.57 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height:</td>
<td>1.83 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wing Area:</td>
<td>16.3 m²</td>
<td>16.72 m²</td>
<td>17.53 m²</td>
</tr>
</tbody>
</table>

5. Launching Hooks

- Safety hook “Europa G 88”
  - LBA Datasheet No. 60.230/2

- Nose tow hook “E 85”
  - LBA Datasheet No. 60.230/1

6. Weak Links

- Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

7. Air Speeds

7.1 Manoeuvring speed $V_A$ 185 km/h

7.2 Never exceed speed $V_{NE}$ 270 km/h

7.3 Maximum permitted speeds

  - in strong turbulence $V_{RA}$ 185 km/h
  - in aero-tow $V_T$ 185 km/h
  - in winch-launch $V_W$ 150 km/h

8. Approved Operations Capability

- VFR Day only

- Cloud flying permitted according to the specifications in the Flight Manual without water ballast

- Aerobatic manoeuvres Category “A” permitted with span 17.2 m or 18.0 m without winglets

9. Launch methods

- Aero tow
- Winch launch and auto launch

10. Maximum Masses

10.1 Maximum Take-off Mass Category “A” (Only with 17.2 m or 18 m without Winglets) 630 kg

10.2 Maximum Take-off Mass Category “U” 750 kg  
  (790 kg possible, refer to A.V 4.)

10.3 Max. Mass of non-lifting parts 469 kg

11. Centre of Gravity Range

190 mm – 440 mm aft of Datum

12. Datum

- wing leading edge at root rib
13. Levelling Means

Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal

14. Control Surface Deflections

Refer to Maintenance Manual

15. Minimum Flight Crew

1

16. Maximum Seating Capacity

2

17. Lifetime limitations

Refer to Maintenance Manual

A.IV Operating and Service Instructions

1. Flight Manual


Maintenance Manual for the sailplane DG-1000S, issued March 2002 or German: Wartungshandbuch für das Segelflugzeug DG-1000S, Ausgabe März 2002


4. Operating Manual for the Launching Hooks

Operating Instructions for the TOST nose tow release mechanism Variant “E 85”, latest approved version Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88”, latest approved version or German: Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe
A.V Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. Suitable for simple aerobatics with wingspan 17.2 m, 18 m and 20 m without waterballast as specified in the Flight Manual. Suitable for aerobatics with wingspan 17.2 m or 18 m without winglets and without waterballast as specified in the Flight Manual.
Section B: **DG-1000T**

### B.I General

1. **Type/Model/Commercial Designation**
   1.1 Type: DG-1000
   1.2 Model: DG-1000T
   1.3 Commercial Designation: Powered Sailplane, JAR 22 – Utility and Aerobatic

2. **Airworthiness Category**
   Powered Sailplane, JAR 22 – Utility and Aerobatic

3. **Manufacturer**
   DG-Flugzeugbau GmbH
   Otto-Lilienthal-Weg 2
   D-76646 Bruchsal
   Germany

4. **LBA Type Certification Application Date**
   24 January 2003

5. **EASA Type Certification Date**
   27 January 2006

### B.II EASA Certification Basis

1. **Reference Date for determining the applicable requirements**

2. **Airworthiness Requirements**
   Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued 1 August 2001

3. **Requirements elected to comply**
   Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991
   Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992

4. **Special Conditions**
   SC-D22-D01 – hand rudder control

5. **Exemptions**
   None

6. **Equivalent Safety Findings**
   JAR 22.207 (c)

7. **Environmental Protection**
   n/a
B.III  Technical Characteristics and Operational Limitations

1. Type Design Definition

Master Drawing List DG-1000T, Issued 23 November 2005, LBA-approved

2. Description

Two seater, self supporting midwing, self sustaining powered sailplane with retractable engine and fixed pitch propeller, conventional T- type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP and CFRP in the engine bay, water ballast tank and ballast box in the fin (optional), fuel tank in the fuselage, with spring mounted retractable central main landing gear and tail wheel or spring mounted retractable central main landing gear, nose wheel, tail wheel or spring mounted fixed central main landing gear, nose wheel and tail wheel.

Wing constructed from CFRP, Schempp-Hirth airbrakes on upper wing surface, waterballast in the wings.

The wings of the DG-1000T are made of carbon fibre reinforced plastics with a parting at y= 8,6m, there are four types of wing tips available with different spans:

A) Wing elongations with 20 m span with winglets
B) Wing tips with 18 m span without winglets
C) Wing tips with 18 m span with winglets
D) End plates for 17.2 m span

3. Equipment

Minimum Equipment:
- 1 Air speed indicator (up to 300 km/h)
- 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
- 2 4-Point harness (symmetrical)
- 1 magnetic compass
- 1 rear view mirror
- 1 engine control unit DIE-NT featuring
  - RPM indicator
  - Fuel quantity indicator
  - Coolant temperature gauge
  - Engine elapsed time indicator
  - Outside air temperature gauge
- 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed
Additionally for operation in Airworthiness category aerobatic:
- 1 Accelerometer capable of retaining min. and max. g-values

Additional equipment refer to flight and Maintenance Manual.

4. Dimensions

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<tr>
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<td></td>
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</tr>
<tr>
<td>Wing Area</td>
<td>16.3 m²</td>
<td>16.72 m²</td>
</tr>
</tbody>
</table>

5. Engine

5.1 Model
SOLO 2350C

5.2 Type Certificate
EASA.E.219

5.3 Limitations
Refer to Flight Manual

5.4 Maximum Continuous Power
20 kW at 6100 rpm

6. Propeller

6.1 Model
DG-P001-1

6.2 Type Certificate
EASA.P.011

7. Fuel capacities
Refer to Flight Manual

8. Launching Hooks
Safety hook “Europa G 88”
LBA Datasheet No. 60.230/2
Nose tow hook “E 85”
LBA Datasheet No. 60.230/1

9. Weak Links
Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

10. Air Speeds

10.1 Manoeuvring speed $V_A$
185 km/h

10.2 Never exceed speed $V_{NE}$
270 km/h

10.3 Maximum permitted speeds
- - in strong turbulence $V_{RA}$
  185 km/h
- - in aero-tow $V_T$
  185 km/h
- - in winch-launch $V_W$
  150 km/h
- - Max Speed for extending/ retracting engine $V_{P0max}$
  100 km/h

11. Approved Operations Capability
VFR Day only
Cloud flying permitted according to the specifications in the Flight Manual without water ballast
Aerobatic manoeuvres Category “A” permitted with span 17.2 m or 18.0 m without

12. Launch methods
   Aero tow
   Winch launch and auto launch

13. Maximum Masses
   13.1 Maximum Take-off Mass Category “A”
       (Only with 17.2 m or 18 m without Winglets)
       630 kg
   13.2 Maximum Take-off Mass Category “U”
       750 kg
       (790 kg possible, refer to B.V 4.)
   13.3 Max. Mass of non-lifting parts
       554 kg

14. Centre of Gravity Range
   200 mm – 440 mm aft of Datum

15. Datum
   Wing leading edge at root rib

16. Levelling Means
   Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal

17. Control Surface Deflections
   Refer to Maintenance Manual

18. Minimum Flight Crew
   1

19. Maximum Seating Capacity
   2

20. Lifetime limitations
    Refer to Maintenance Manual
B.IV Operating and Service Instructions

1. Flight Manual
   Flight Manual for the powered sailplane DG-1000T, issued July 2005, EASA approved or German:
   Flughandbuch für den Motorsegler DG-1000T, Ausgabe Juli 2005

   Maintenance Manual for the powered sailplane DG-1000T, issued June 2005 or German:
   Wartungshandbuch für den Motorsegler DG-1000T, Ausgabe Juni 2005

   Repair Manual for the powered sailplane DG-1000T, issued June 2005 or German:
   Reparaturhandbuch für den Motorsegler DG-1000T, Ausgabe Juni 2005 oder Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Dezember 2010

   Manual for engine SOLO 2350 C, latest approved version, issued by Solo-Kleinmotoren GmbH or German:
   Handbuch für den Motor SOLO 2350 C, letzte gültige Ausgabe, der Firma SOLO Kleinmotoren GmbH

5. Operating Manual and Maintenance Manual for Propeller
   Manual for fixed pitch 2-blade composite propeller DG-P001, latest approved version or German:
   Handbuch für den starren Zweiblatt-Propeller DG-P001, letzte gültige Ausgabe.
6. **Operating Manual for the Launching Hooks**

Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version

Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version

or German:

Betriebsanleitung für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe

Betriebsanleitung für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe

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**B.V Notes**

1. Manufacturing is confined to industrial production.

2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.

3. The DG-1000T may be operated with the engine removed or the engine inoperable. Refer to Flight Manual and Maintenance Manual.

Section C:  **DG-1000M**

### C.I General

1. **Type/ Model/ Commercial Designation**
   1.1 Type: DG-1000
   1.2 Model: DG-1000M
   1.3 Commercial Designation: DG-1001M

2. **Airworthiness Category**
   Powered Sailplane, JAR 22 – Utility

3. **Manufacturer**
   DG-Flugzeugbau GmbH
   Otto-Lilienthal-Weg 2
   D-76646 Bruchsal
   Germany

4. **EASA Type Certification Application Date**
   31 October 2008

5. **EASA Type Certification Date**
   11 March 2011

### C.II EASA Certification Basis

1. **Reference Date for determining the applicable requirements**
   12 February 2003

2. **Airworthiness Requirements**
   Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued 1 August 2001

3. **Requirements elected to comply**
   Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991
   Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992

4. **Special Conditions**
   None

5. **Exemptions**
   None

6. **Equivalent Safety Findings**
   JAR 22.207 (c)

7. **Environmental Protection**
   ICAO Annex 16, Volume 1, Part II, Chapter X
C.III  Technical Characteristics and Operational Limitations

1. Type Design Definition
   Master Drawing List DG-1000M, issued February 14, 2011, LBA-approved

2. Description
   Two-seater, self supporting midwing, selflaunching powered sailplane with retractable engine and fixed pitch propeller, conventional T-type tailplane, horizontal tailplane constructed from GFRP and CFRP, fuselage and fin constructed from GFRP and CFRP in the engine bay, with spring mounted retractable central main landing gear, steerable tail wheel, ballast box in the fin, fuel tank in the fuselage
   Wing constructed from CFRP with parting at y= 8,6m and wing tips for 20 m span with Winglets, Schempp-Hirth airbrakes on upper wing surface, optional waterballast in the wings

3. Equipment
   Minimum Equipment:
   - 1 Air speed indicator (up to 300 km/h)
   - 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
   - 2 4-Point harness (symmetrical)
   - 1 Magnetic compass
   - 1 Rear view mirror
   - 1 Engine control unit DIE-NT featuring
     - RPM indicator
     - Fuel quantity indicator
     - Coolant temperature gauge
     - Engine elapsed time indicator
     - Outside air temperature gauge
   - 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed

   Additional Equipment refer to flight and Maintenance Manual

4. Dimensions
   Span: 20.00 m
   Length: 8.57 m
   Height: 1.87 m
   Wing Area: 17.53 m²

5. Engine
   5.1 Model
   SOLO 2625 02i
   5.2 Type Certificate
   EASA.E.218
   5.3 Limitations
5.4 Maximum Continuous Power

50 kW at 6600 rpm

6. Propeller

6.1 Model

Binder Motorenbau GmbH
BM-G1-160-R-120-1

6.2 Type Certificate

EASA.P.500

7. Fuel capacities

Refer to Flight Manual

8. Launching Hooks

Safety hook “Europa G 88”
LBA Datasheet No. 60.230/2
Nose tow hook “E 85”
LBA Datasheet No. 60.230/1

9. Weak Links

Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

10. Air Speeds

10.1 Manoeuvring speed $V_A$ 185 km/h
10.2 Never exceed speed $V_{NE}$ 270 km/h
10.3 Maximum permitted speeds
- in strong turbulence $V_{RA}$ 185 km/h
- in aero-tow $V_T$ 185 km/h
- in winch-launch $V_W$ 150 km/h
- Max Speed for extending/ retracting engine $V_{PMAX}$ 100 km/h

11. Approved Operations Capability

VFR Day only
Cloud flying according to the specifications in the Flight Manual
Simple aerobatic manoeuvres permitted according to Flight Manual

12. Launch methods

Aero tow
Winch launch and auto launch
Self-launch

13. Maximum Masses

13.1 Max. Take-Off Mass: 790 kg
13.2 Max. Mass of Non-Lifting Parts 600 kg
13.3 Max. Take-Off Mass for simple arobatic manoeuvres: 790 kg

14. Centre of Gravity Range

14.1 With powerplant installed
320 mm – 440 mm aft of Datum
With powerplant removed
200 mm – 440 mm aft of Datum

15. Datum

wing leading edge at root rib
16. Levelling Means
Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal

17. Control Surface Deflections
Refer to Maintenance Manual

18. Minimum Flight Crew
1

19. Maximum Seating Capacity
2

20. Lifetime limitations
Refer to Maintenance Manual

C.IV Operating and Service Instructions

1. Flight Manual
Flight Manual for the powered sailplane DG-1000M, issued October 2010, EASA approved or German:
Flughandbuch für den Motorsegler DG-1000M, Ausgabe Oktober 2010

Maintenance Manual for the powered sailplane DG-1000M, issued December 2010 or German
Wartungshandbuch für den Motorsegler DG-1000M, Ausgabe Dezember 2010

Repair Manual for sailplanes and motorgliders DG-1000, issued December 2010 or German:
Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Dezember 2010

Manual for engine SOLO 2625 02i, latest approved version, issued by Solo-Kleinmotoren GmbH or German:
Handbuch für den Motor SOLO 2625 02i, letzte gültige Ausgabe, der Firma SOLO Kleinmotoren GmbH

5. Operating Manual and Maintenance Manual for Propeller
Manual for fixed pitch 2-blade composite propeller BM-G1-160-R-120-1, latest approved version or German:
6. Operating Manual for the Launching Hooks

   Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version
   Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version

   or German:
   Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe
   Betriebshandbuch für die Sicherheitskupplung „Europa G 88”, in der jeweils gültigen Ausgabe

C.V Notes

1. Manufacturing is confined to industrial production.

2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.

3. The DG-1000M may be operated with the engine removed or the engine inoperable. Refer to Flight Manual and Maintenance Manual
Section D:  **DG-1001E**

D.I  **General**

1. Type/ Model/ Variant
   1.1 Type:  DG-1000
   1.2 Model:  DG-1001E

2. Airworthiness Category  Powered Sailplane, JAR 22 – Utility and Aerobatic

3. Manufacturer  
   - DG-Flugzeugbau GmbH  
     Otto-Lilienthal-Weg 2  
     D-76646 Bruchsal  
     Germany
   - Volocopter Production GmbH  
     Otto-Lilienthal-Weg 2  
     D-76646 Bruchsal  
     Germany

4. EASA Type Certification Application Date  14 February 2020

5. EASA Type Certification Date  09 February 2023

D.II  **EASA Certification Basis**

1. Reference Date for determining the applicable requirements  16 May 2022

2. Airworthiness Requirements  Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR 22), Amendment 6, issued August 1, 2001

3. Requirements elected to comply  Preliminary guideline for the stress analyses of glass-fibre and carbon-fibre reinforced plastic structures for sailplanes and powered sailplanes, issued July 1991

   - Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issued 15 September 1992

4. Special Conditions  
   - SC-D22-D01 – hand rudder control  
   - SC-22.2014-01 - Installation of electric propulsion units in powered sailplanes  
   - SC E-01 - Airworthiness standard for CS-22H - Electrical retractable engine to be operated in powered sailplanes

5. Exemptions  None

6. Equivalent Safety Findings  JAR 22.207 (c)

7. Environmental Protection  N/A
D.III  Technical Characteristics and Operational Limitations

1. Type Design Definition

Master Drawing List DG-1001E
issued December 12, 2022

2. Description

Two-seater, self-supporting mid-wing, self sustaining powered sailplane with electric motor in the fuselage nose and fixed pitch back folding propeller (FES system), conventional T-type tailplane, horizontal tailplane constructed of GFRP and CFRP, fuselage and fin constructed of GFRP and CFRP around the battery compartment, water ballast tank and ballast box in the fin (optional), batteries in the fuselage behind the wings, with spring mounted electrically retractable central main landing gear and tail wheel. Wing constructed in CFRP, Schempp-Hirth airbrakes on upper wing surface, water ballast in the wings. The wings of the DG-1001E have a parting at y= 8.6m, there are four types of wing tips available with different spans:

A) Wing elongations with 20 m span with winglets
B) Wing tips with 18 m span without winglets
C) Wing tips with 18 m span with winglets
D) End plates for 17.2 m span

3. Equipment

Minimum Equipment:
- 1 Air speed indicator (up to 300 km/h)
- 1 Altimeter measuring range min. 10000 m, one turn max. 1000 m
- 2 4-Point harness (symmetrical)
- 1 magnetic compass
- 1 Outside air temperature gauge
- 1 FES control unit (FCU), featuring:
  - RPM indicator
  - Energy quantity remaining indicator
  - Motor-, controller- and 2 battery temperature gauge
  - Engine elapsed time indicator
- 1 parachute or back cushion (thickness approx. 8 cm/ 3 in front seat and 3-8 cm (1.2-3 in) back seat when compressed

Additionally for operation in Airworthiness category aerobatic:
- 1 Accelerometer capable of retaining min. and max. g-values
4. Dimensions

Span: 17.20 m  18.00 m  20.00 m
Length: 8.57 m
Height: 1.83 m
Wing Area: 16.3 m²  16.72 m²  17.53 m²

5. Engine [electrical propulsion]

5.1 Model  FES-DG-M100
5.2 Type Certificate  Certified as part of the aircraft
5.3 Limitations  Maximum power 30 kW
5.4 Max. continuous revs  4800 RPM
5.5 Max. over speed revs  4800 RPM
5.6 Max. motor temperature  90°C
5.7 Max. power electronics temp.  90°C

6. Propeller

6.1 Model  FES-DG-P1-102
6.2 Type Certificate  Certified as part of the aircraft
6.3 Number of blades  2 foldable, fixed pitch
6.4 Diameter  1020 mm
6.5 Sense of Rotation  clockwise, looking at direction of flight

7. Battery [electrical propulsion]

7.1 Model  2x FES GEN4 16S 84Ah
7.2 Battery capacity  2x 4.25 kWh
7.3 Non-useable battery capacity  n/a
7.4 Max battery discharge temperature  55°C
7.5 Min battery discharge temperature  0°C
7.6 Max battery charge temperature  55°C, BMS max. 50°C
7.7 Min battery charge temperature  0°C
7.8 Range of permissible cell voltage  3.1V to 4.18 V

8. Launching Hooks

Safety hook “Europa G 88”
LBA Datasheet No. 60.230/2
Nose tow hook “E 85”
LBA Datasheet No. 60.230/1

9. Weak Links

Ultimate strength for aero-tow, winch- and autotow-launching max 1100 daN

Additional equipment refer to Flight and Maintenance Manual.
10. Air Speeds

10.1 Manoeuvring speed \( V_A \) 185 km/h
10.2 Never exceed speed \( V_{NE} \) 270 km/h
10.3 Maximum permitted speeds
   - in strong turbulence \( V_{RA} \) 185 km/h
   - in aero-tow \( V_T \) 185 km/h
   - in winch-launch \( V_W \) 150 km/h
   - Max Speed for rotating propeller \( V_{PE} \): 160 km/h
   - Min. speed to start and stop motor \( V_{PO_{min}} \): 80 km/h
   - Max speed to start and stop motor \( V_{PO_{max}} \): 120 km/h

11. Approved Operations Capability

11.1 VFR Day only
Cloud flying permitted according to the specifications in the Flight Manual without water ballast
Aerobatic manoeuvres Category “A” permitted with span 17.2 m or 18.0 m without winglets

12. Launch methods

Aero tow
Winch launch and auto launch

13. Maximum Masses

13.1 Maximum Take-Off Mass Category “A” (Only with 17.2 m or 18 m without Winglets) 630 kg
13.2 Maximum Take-Off Mass Category “U”, 17.2 or 18 m 750 kg
13.3 Maximum Take-Off Mass Category “U”, 20 m 790 kg
13.4 Max. Mass of non-lifting parts 600 kg

14. Centre of Gravity Range 190 mm – 440 mm aft of Datum

15. Datum
Wing leading edge at root rib

16. Levelling Means
Wedge 1000:33 placed horizontal on upper side of the fuselage boom horizontal

17. Control Surface Deflections
Refer to Maintenance Manual

18. Minimum Flight Crew
1

19. Maximum Seating Capacity
2

20. Lifetime limitations
Refer to Maintenance Manual
D.IV Operating and Service Instructions

1. Flight Manual
   Flight Manual for the powered sailplane DG-1001E, issued December 2022, EASA approved or later EASA approved revision or German:
   Flughandbuch für den Motorsegler DG-1001E, Ausgabe Dezember 2022

   Maintenance Manual for the powered sailplane DG-1001E, issued December 2022, or later EASA approved revision or German
   Wartungshandbuch für den Motorsegler DG-1001E, Ausgabe Dezember 2022

   Repair Manual for sailplanes and motorgliders DG-1000, issued October 2022 or German:
   Reparaturhandbuch für Segelflugzeuge und Motorsegler DG-1000, Ausgabe Oktober 2022

   Manual for electric motor FES-DG-M100, latest approved version or German:
   Handbuch für den Motor FES-DG-M100 in der jeweils gültigen Ausgabe

5. Operating Manual and Maintenance Manual for Propeller
   FES-DG-P1-102 PROPELLER MANUAL, latest approved version or German:
   Handbuch für den Propeller FES-DG-P1-102 in der jeweils gültigen Ausgabe

6. Operating Manual for the Launching Hooks
   Operating Instructions for the TOST nose tow release mechanism Variant “E 85” latest approved version
   Operating Instructions for the TOST safety tow release mechanism Variant “EUROPA G 88” latest approved version or German:
   Betriebshandbuch für die Schleppkupplung Bugkupplung “E 85”, in der jeweils gültigen Ausgabe
   Betriebshandbuch für die Sicherheitskupplung “Europa G 88”, in der jeweils gültigen Ausgabe
D.V  Notes

1. Manufacturing is confined to industrial production.
2. All parts exposed to sun radiation – except the areas for markings and registration – must have a white colour surface.
3. The DG-1001E may be operated with the battery and/or the motor removed or the motor inoperable. Refer to Flight Manual and Maintenance Manual.
Section E: Administrative Section

E.I Acronyms & Abbreviations

CPFR Carbon fibre reenforced plastic
EASA European Union Aviation Safety Agency
GPFR Glass fibre reenforced plastic
JAR Joint Aviation Requirements
LBA Luftfahrt-Bundesamt
MTOM Maximum Take-off Mass
RPM Rotations per minute
TC Type Certificate
TCDS Type Certificate Data Sheet
TCDSN Type Certificate Data Sheet for Noise
VFR Visual Flight Rules

E.II Type Certificate Holder Record

DG-Flugzeugbau GmbH
Otto-Lilienthal-Weg 2
76646 Bruchsal, Germany

DG Aviation GmbH
Otto-Lilienthal-Weg 2
76646 Bruchsal, Germany

E.III Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
<th>TC Issue No. &amp; Date</th>
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<tr>
<td>01</td>
<td>January 27th 2006</td>
<td>Initial Issue</td>
<td>12 March 2002</td>
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<tr>
<td>02</td>
<td>March 15th 2006</td>
<td>Amendment to Notes B.III. 3: For operation in Airworthiness category aerobatic: 1 Accelerometer capable of retaining min. and max. g-values Für den Betrieb in der Lufttüchtigkeitsklasse Aerobatic zusätzlich: Beschleunigungsmesser mit Schleppzeiger</td>
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<tr>
<td>04</td>
<td>August 29th 2011</td>
<td>DG-1000S: New fixed LG designed (with disc brake), the limitation of the max. mass to 630 kg (1389 lbs.) can be waived.</td>
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<tr>
<td>05</td>
<td>April 24th 2012</td>
<td>Additional ELOS for JAR 22.207(2) for DG-1000M</td>
<td></td>
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<tr>
<td>06</td>
<td>August 25th 2015</td>
<td>Correction of type in section A.1.2</td>
<td></td>
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<tr>
<td>07</td>
<td>March 2nd 2017</td>
<td>Corrections in section A.III., B.III. C.IV.,</td>
<td></td>
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<tr>
<td>08</td>
<td>July 3rd 2019</td>
<td>Editorial changes; Engine TCDS references</td>
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<tr>
<td>09</td>
<td>06 April 2022</td>
<td>Change of TC holder</td>
<td>24 March 2022</td>
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<tr>
<td>10</td>
<td>08 June 2022</td>
<td>Optional 20 m wingtips with neo Winglets and increased MTOM for variants S and T.</td>
<td>n/a</td>
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<tr>
<td>11</td>
<td>09 February 2023</td>
<td>New variant DG-1001E. DG-1000S and M, missing Special Condition for hand rudder control added. Launch methods added, all models DG-1000S and DG-1001E, new manufacturer added</td>
<td>09 February 2023</td>
</tr>
<tr>
<td>12</td>
<td>08 January 2024</td>
<td>GEN4, 16S, 84Ah battery for DG-1001E Corrected motor max RPM for DG-1001E German translations in TCDS removed for better readability Minor corrections in layout of TCDS Deleted former 3. and 4. of section A.V and added this information to section A.III 8.</td>
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