# TYPE CERTIFICATE DATA SHEET

No. EASA.BA.020

**for**

Aérophile 5500

**Type Certificate Holder**

Aérophile SAS

17 rue Vasco da Gama
75015 Paris
France

For Model: AÉROPHILE 5500

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**SECTION 1: AÉROPHILE 5500**

I. General

| | |
|---|---|
| 1. Type | AÉROPHILE 5500 |
| 2. Airworthiness Category | Standard |
| 3. Type Certificate Holder | AÉROPHILE SAS<br>17 rue Vasco da Gama<br>75015 Paris, France |
| 4. Manufacturer | AÉROPHILE SAS<br>17 rue Vasco da Gama<br>75015 Paris, France |
| 5. Type Certification Application Date to | DGAC-FR: 23 June 1993 |
| 6. State of Design Authority | EASA |
| 7. Type Certificate Date | DGAC-FR: 30 May 2001 |
| 8. Type Certificate N° | EASA: EASA.BA.020 (from 26 November 2012)<br>(DGAC-FR: 192, until TCDS No. 192, Issue 2, May 2005) |
| 9. EASA Type Certificate Date | 28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet. |

II. Certification Basis

| | |
|---|---|
| 1. Reference Date for determining the applicable requirements | 23 June 1993 |
| 2. Certification Basis | Defined by DGAC-France letter 54340/SFACT/N.AG, dated 13 December 1993 |
| 3. Airworthiness Requirements | Airworthiness Requirements for General Technical Conditions for free manned balloons, issue 015/A, dated 3 March 1980, completed with Complementary Technical Conditions 015/A (FAR 31 Amdt. 3 and 4, differences notified) |
| 4. Special Conditions | none |
| 5. Deviations | none |
| 6. Equivalent Safety Findings | §31.27 (c): Gondola<br>Explanation: the free-fall test has been replaced by calculation on finite elements and overload test, under the control of a certified body<br>§31.49 (c): Discharge valve<br>Explanation: Equivalent safety findings adjusted on flow of valve by means of lateral opening. |
| 7. Exemptions (grandfathered)<br>*Ausnahmen (bestandsgeschützt)* | §31.17: Climb<br>Explanation: Not required as this balloon is tethered<br>§31.51: Ballast<br>Explanation: Not required as this balloon is tethered<br>§31.85 (c): Compass<br>Explanation: Not required as this balloon is tethered. |

III. Technical Characteristics and Operational Limitation

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|---|---|
| 1. Type Design Definition | Drawing list for tethered gas balloon type AÉROPHILE 5500, Issue July 2000, DGAC-France approved 30 May 2001, or later approved revisions. |

2. Description/ Dimensions

Stationary, manned tethered gas balloon for passenger flights

2.1 Envelope

Spherical envelope of approx. 5 500 m³ total volume consisting of 46 vertical envelope gores, from serial number 015 onwards the total volume is approx. 5 932 m³ and from s/n 037 onwards optional approx. 6 100 m³, both with 48 gores; coated PES-fabric; load transfer by net and lines; electrically vented ballonet in lower part of the envelope; automatically and manually controllable over pressure valve; rip panel; emergency opening; optional internal lighting system

2.2 Gondola

- Two- or four-part gondola with octagonal gangway, aluminium frame construction, side walls with canvas cover; or,
- Eight-part gondola with circular gangway, aluminium-fibre reinforced plastic construction (FRP)

| | | |
|---|---|---|
| Outer diameter | : | 590 cm |
| Inner diameter | : | 420 cm |
| Height | : | 260 or 320 cm |
| Inner height of gondola wall | : | 110 cm |

Note: Manufacturer's identification plate is located on the load ring.

3. Equipment

1 Envelope pressure gauge with high alarm
1 Envelope thermometer
1 Dynamometer in the tether system
1 Wind speed anemometer
1 Rate of climb indicator
1 Altimeter
1 Navigation light

4. Ground facilities

Stationary cable winch, electric-hydraulic ascent/descent device, with emergency back-up unit for the provision of hydraulical and electrical energy.

| Winch type | Maximum unspooled tether cable length |
|---|---|
| Metalliance TR99001 | 150 m |
| Metalliance TR2000 | 300 m |
| Hydrotechnics, s/n 50-31667-6-97 | 150 m |

5. Occupants

Maximum: 31
Minimum: 1

6. Maximum Mass

5 650 kg

Permitted range of cable force
(measured by the load cell in the tether system):

Maximum: 48 000 N when gondola rests on the ground
Minimum: 4 000 N with gondola loaded and lifted

7. Life-limited Parts

see Maintenance Manual

| | |
|---|---|
| 8. Lifting Gas | Helium (He) |

IV. Operating and Service Instructions

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|---|---|
| 1. Operating Instructions | Flight Manual for the tethered gas balloon AÉROPHILE 5500, Issue 1 dated May 1994 or later approved revisions and supplements |
| 2. Service Instructions | Maintenance Manual for the tethered gas balloon AÉROPHILE 5500, Issue 1 dated May or later revisions and supplements |

V. Notes

*Bemerkungen*

1. Manufacturing is confined to industrial production.
2. Certified for commercial passenger flights.
3. For each balloon a "Certificate of Conformity" for the winch and the gondola with its suspension system issued by a qualified entity must be at hand when the statement of conformity is issued. In this certificate it must be stated that the parts comply with the type design definition.
4. Additional operational equipment and procedures according to the determinations of the ascent permit.
5. From year of manufacture 2005 onwards No 192MOD050302 (including subsequent revisions) the master drawing list AEROPHILE 5500 No AERO5500PNF01, Issue 6, 22 March 2012 and subsequent issues are mandatory.
6. When applying 192MOD050303 (including subsequent revisions the master drawing list AEROPHILE 5500 No AERO5500PNF01, Issue 6, 22 March 2012 and subsequent issues are mandatory
7. When applying optional modification No 192MOD080320A (including subsequent revisions) the master drawing list AEROPHILE 5500 No AERO5500PNF01, Issue 6, 22 March 2012 and subsequent issues are mandatory.
8. When applying the technical note No TN192MOD120220A (including subsequent revisions) the master drawing list AEROPHILE 5500 No AERO5500PNF01, Issue 6, 22 March 2012 and subsequent issues are mandatory. This Technical Note is applicable to S/N 019 or higher.
9. When applying optional modification No 192MOD1100307A (including subsequent revisions) the master drawing list AEROPHILE 5500 No AERO5500PNF01, Issue 6, 22 March 2012 and subsequent issues are mandatory.

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**SECTION: ADMINISTRATIVE**

I. Acronyms and Abbreviations

DGAC-FR Direction Générale l'Aviation Civile, France
PES Polyethylene

II. Type Certificate Holder Record

| II.1 Type Certificate Holder | Period |
|---|---|
| AÉROPHILE S.A.<br>19 rue du Connétable<br>F-60500 Chantilly, France | from 21 May 1996 |
| AÉROPHILE S.A.<br>106 avenue Félix Faure<br>75015 Paris, France | From 15 April 2006 |
| AÉROPHILE SAS<br>106 avenue Félix Faure<br>75015 Paris, France | from 26 Nov 2012 |
| AÉROPHILE SAS<br>17 rue Vasco da Gama<br>75015 Paris, France | since 01 June 2022 |

III. Change Record

| Issue | Date | Changes | TC issue |
|---|---|---|---|
| Issue 1 | 26 Nov 2012 | Initial issue of EASA TCDS | 26 November 2012 |
| Issue 2 | 15 Jan 2024 | SECTION 1:<br>- I.3/4: Change to TC holder address<br>- I.6: State of Design Authority added<br>- I.9: legal reference to EASA Type Certification Date added<br>- II.7: reference to 'grandfathering' added<br>SECTION: ADMINISTRATIVE: added<br>All pages: EASA TCDS format updated | 15 January 2024 |

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