



# TYPE CERTIFICATE DATA SHEET

**EASA.BA.016**

for  
**Hot Air Balloons**

Type Certificate Holder:  
**Pasha Balloons d.o.o.**  
Murska Sobota, Slovenia

For Models:  
**Fire balloons G**  
**Fire balloons M**  
**Fire balloons S**



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## SECTION 1: fire balloons G

### A. GENERAL, All Types and Models

#### I. General

- |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type/Variant or Model        | Fire balloons G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2. Airworthiness Category       | Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. Certification process        | Regulation (EU) No 748/2012 – Annex Ib                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4. Type Certificate Holder      | Pasha Balloons, prizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5. Manufacturer                 | Pasha Balloons, prizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G<br><br>Theo Schroeder fire balloons GmbH<br>Gewerbegebiet Am Bahnhof 12<br>54338 Schweich<br>Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6. National certification Date  | 6 April 1987, LBA TC No. 8025/BA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7. LBA Application Date         | 14 February 1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 8. EASA Type Certification Date | 2 May 2006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 9. TCDS History                 | <p>This EASA TCDS replaces the German TCDS Nr. 8025/BA issued by the LBA</p> <p>The EASA TCDS BA.010, model fire balloons S, was added to TCDS EASA.BA:016 with revision 17. The model fire balloons M was part of the model fire balloons G. It will be a separate model from revision 17 on. The serial numbers of model balloons S were in line with the serial numbers of the model fire balloons G. The models fire balloons S and fire balloons M will be undocked from the initial line and will each start a new serial number line starting at serial number 1, after serial number 1871.</p> <p>At revision 19 TCDS EASA.BA.016 has been transferred to Pasha Balloons d.o.o. and has been issued in accordance with Regulation (EU) No 2018/1139, in particular Article 77 1 (e) thereof and Regulation (EU) No 748/2012 Annex 1b</p> |



## II. Certification Basis

- |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Reference date for determining applicable requirements | Refer to tables 1.1; 1.2; 4.1; 4.2; 4.3; 4.4                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. Certification Basis                                    | Defined by Table 1.2 and Section 4 tables, as applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3. Airworthiness Requirements                             | Airworthiness Requirements for Hot Air Balloons, Issue 23. February 1982                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Elected to Comply Requirements                         | <ul style="list-style-type: none"> <li>- Additional requirements for take-off devices for hot air and gas balloons LBA endorsement I 431-523.2/88, 28 June 1988</li> <li>- Additional requirements for a registration in the category "Commercial Transport" (TM 8025-15, see also V.3)</li> <li>- Certification Specifications for Hot Air Balloons CS-31HB Amendment 1, 5 December 2011 for Polyester fabric so as for envelopes with a volume of 10500 m<sup>3</sup> and 12500 m<sup>3</sup></li> </ul> |
| 5. Special Conditions                                     | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6. Exemptions                                             | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7. Equivalent Safety Findings                             | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## III. Technical Characteristics and Operational Limitations

- |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type Design Definition | Drawing List Issue January 1987, LBA-approved, as well as subsequent approved editions and changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2. Description/Dimensions | Manned hot air balloon for recreational flying or commercial passenger transport (see V.3), with a height up to 35 m and a diameter up to 32 m.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3. Envelope               | Conventional envelope shape made of Polyester or Nylon fabric for a volume range from 1200 to 3600 m <sup>3</sup> , with 16 or 24 vertical gores respectively 4000, 4250, 4500, 5000, 6000, 7000 and 8500 m <sup>3</sup> with 24 gores, envelopes with 10500 m <sup>3</sup> and 12500 m <sup>3</sup> with 28 gores. Following deflation systems are applicable to different envelope volume ranges: Parachute system, Paraquick system; Smart Vent, Para Vent, Easy Vent and Lite Vent. Modification of existing Paraquick system. Out of production deflation systems are Ring-valve system and Parachute system with Velcro rip panel. One or more rotation valves are optional or mandatory depending on the balloon configuration. For more details see table 1.1 and 1.2 |
| 4. Basket                 | Conventional braided baskets with solid floor, see table 4.3 "baskets" in section 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5. Burner                 | Conventional single or clustered burners see table 4.2 "burners" in section 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. Fuel cylinders         | Thin-walled pressure vessels made of stainless steel see table 4.4 "fuel cylinders" in section 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7. Equipment              | <ul style="list-style-type: none"> <li>- Altimeter</li> <li>- Rate of climb/descent indicator</li> <li>- Indicator for the limit temperature of the envelope</li> <li>- Pressure gauge for each burner</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



- Remaining quantity gauge for each fuel cylinder
- Fire extinguisher
- Heat resistant gloves
- Alternative source of ignition

8. Occupancy

Maximum number of occupants is 27

Minimum crew is 1 pilot

The number of occupants in combination with the number of fuel cylinders for each basket size is described in the data matrix of the Flight Manual

9. Maximum Mass

The maximum take-off weight is described in the data matrix of the Flight Manual

10. Life Limit Parts

see Maintenance Manual

11. Envelope Temperature

110°C (230 °F)

The maximum take-off mass as well as the maximum basket payload must not exceed the values laid down in the data matrix of the Flight Manual

#### IV. Operating and Service Instructions

1. Operating Instructions

Flight Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, and subsequent approved supplements and changes

Flight Manual fire balloons G, Issue November 2001, and subsequent approved supplements and changes

2. Service Instructions

Maintenance Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, and subsequent supplements and changes

Maintenance Manual Schroeder fire balloons GmbH, Issue 1, Amendment 0, October 2011, and subsequent changes and supplements.

Applicability: all fire balloons G with burner FB 6; refer to Maintenance Manual Annex 1 concerning 'out of production' components

#### V. Notes

1. Manufacturing is confined to industrial production
2. The combination of a fire balloons G envelope with Cameron Balloons parts of Cameron Hot Air Balloons (BA.013 Cameron HAB) is described by the Technical Note TM 8025-5, including subsequent approved revisions.
3. The use for commercial passenger transport according to the stipulations of the Technical Note TM 8025-15, LBA-approved dated 14 March 1991, as well as subsequent approved revisions, is permitted.
4. The Flight Manual fire balloons G, Issue November 2001, is mandatory for all serial numbers from manufacturing date 1. November 2001 onwards.
5. The combination of a fire balloons G envelope with Thunder&Colt parts of Cameron Hot Air Balloons (BA.013 Cameron HAB) is described by the Technical Note TM 8025-36, including subsequent approved revisions.



6. The combination of a fire balloons G envelope with parts of Ultramagic Hot Air Balloons (BA.014 Ultramagic HAB) is described by the Technical Note TM 8025-45, including subsequent approved revisions.
7. The combination of a fire balloons G envelope with parts of Lindstrand Hot Air Balloons Ltd (BA.021, BA.501, BA.502, BA.503, BA.504, BA.505, BA.506) is described by the Technical Note TM EASA.BA.016-44, including subsequent approved revisions.
8. The combination of a fire balloons G envelope with parts of Cameron Balloons Ltd (BA.013) is described by the Technical Note TM EASA.BA.016-42, including subsequent approved revisions.
9. The combination of a fire balloons G envelope with parts of Aerostar International Inc. is regulated by the Technical Note TM EASA.BA.016-48, including subsequent approved revisions.
10. The combination of a fire balloons G envelope with parts of Balóny Kubiček spol. s r. o. is defined by the Technical Note TM EASA.BA.016-51, including subsequent approved revisions.
11. Envelopes up to and including S/N 1995 are defined by the legacy drawing configuration system. Envelopes S/N 1996 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).

## B. TYPE DEFINITION AND CERTIFICATION DATA, fire balloons G

### I. Certification Information

| Model   | Volume (m <sup>3</sup> ) | Gores (pcs) | MTOM (kg) | Appr. Weight (kg) | Drawing No.      |
|---------|--------------------------|-------------|-----------|-------------------|------------------|
| G12/16  | 1200                     | 16          | 378       | 45-130            | G1216-G-01-0001  |
| G18/16  | 1800                     | 16          | 535       | 45-130            | G1816-G-01-0001  |
| G20/16  | 2000                     | 16          | 630       | 45-130            | G2016-G-01-0001  |
| G22/16  | 2200                     | 16          | 690       | 45-130            | G2216-G-01-0001  |
| G26/16  | 2600                     | 16          | 820       | 45-130            | G2616-G-01-0001  |
| G30/16  | 3000                     | 16          | 910       | 45-130            | G3016-G-01-0001  |
| G34/16  | 3400                     | 16          | 1040      | 45-130            | G3416-G-01-0001  |
| G36/16  | 3600                     | 16          | 1040      | 45-130            | G3616-G-01-0001  |
| G20/24  | 2000                     | 24          | 630       | 50-150            | G2024-G-01-0001  |
| G22/24  | 2200                     | 24          | 690       | 50-150            | G2224-G-01-0001  |
| G26/24  | 2600                     | 24          | 820       | 50-150            | G2624-G-01-0001  |
| G30/24  | 3000                     | 24          | 910       | 50-150            | G3024-G-01-0001  |
| G34/24  | 3400                     | 24          | 1040      | 50-150            | G3424-G-01-0001  |
| G36/24  | 3600                     | 24          | 1040      | 50-150            | G3624-G-01-0001  |
| G40/24  | 4000                     | 24          | 1260      | 150-170           | G4024-G-01-0001  |
| G42/24  | 4250                     | 24          | 1340      | 155-175           | G4224-G-01-0001  |
| G45/24  | 4500                     | 24          | 1410      | 160-180           | G4524-G-01-0001  |
| G50/24  | 5000                     | 24          | 1575      | 175-210           | G5024-G-01-0001  |
| G60/24  | 6000                     | 24          | 1890      | 200-240           | G6024-G-01-0001  |
| G70/24  | 7000                     | 24          | 2205      | 220-270           | G7024-G-01-0001  |
| G85/24  | 8500                     | 24          | 2205      | 270-310           | G8524-G-01-0001  |
| G105/28 | 10500                    | 28          | 3400      | 310-350           | G10528-G-01-0001 |
| G125/28 | 12500                    | 28          | 4000      | 330-370           | G12528-G-01-0001 |

Table 1.1: Envelope data, fire balloons G

| Model  | Airworthiness Requirements | Certification Basis                           | Certification Date |
|--------|----------------------------|-----------------------------------------------|--------------------|
| G12/16 | LFHB; 23. Feb.1982         | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987          |
| G18/16 | LFHB; 23. Feb.1982         | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987          |



|         |                    |                                               |              |
|---------|--------------------|-----------------------------------------------|--------------|
| G20/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G22/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G26/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G30/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G34/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G36/16  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G20/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G22/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G26/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G30/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G34/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G36/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 6.04.1987    |
| G40/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 20.04.1990   |
| G42/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 20.04.1990   |
| G45/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 20.Apr. 1990 |
| G50/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 20.Apr. 1990 |
| G60/24  | LFHB; 23. Feb.1982 | LBA letter I 33 - 8025/86, dated 5 March 1986 | 16.Oct.1991  |
| G70/24  | LFHB; 23. Feb.1982 | LBA letter I 33- 8025/86, dated 5 March 1986  | 16.Oct.1991  |
| G85/24  | LFHB; 23. Feb.1982 | LBA Letter M332-8025-85/24                    | 23.May 2000  |
| G105/28 | CS-31HB Amdt.1     | CS-31HB Amdt.1                                | 05.Jul.2021  |
| G125/28 | CS-31HB Amdt.1     | CS-31HB Amdt.1                                | 05.Jul.2021  |

Table 1.2: Envelope certification information, fire balloons G

## II. Combination Information

| MODEL   | M/2 | M/3 | M/5 | I/2 | II/3 | III/4 | IV/5 | V-A | V/5 | VI/6 | VII/7 | VIII/8 | VIII/9 | IX/10 | IX/11 | X/13 | X/15 | XI/19 | XII/23 | XIII/27 |
|---------|-----|-----|-----|-----|------|-------|------|-----|-----|------|-------|--------|--------|-------|-------|------|------|-------|--------|---------|
| G12/16  | D   |     |     | D   |      |       |      |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G18/16  | D   | D   |     |     | D    | D     | D    |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G20/16  | D   | D   |     |     | D    | D     | D    |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G20/24  | D   | D   |     |     | D    | D     | D    |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G22/16  |     | D   |     |     | D    | D     | D    |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G22/24  |     | D   |     |     | D    | D     | D    |     |     |      |       |        |        |       |       |      |      |       |        |         |
| G26/16  |     |     | D   |     |      | D     | D    | D   | D   |      |       |        |        |       |       |      |      |       |        |         |
| G26/24  |     |     | D   |     |      | D     | D    | D   | D   |      |       |        |        |       |       |      |      |       |        |         |
| G30/16  |     |     | D   |     |      | D     | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G30/24  |     |     | D   |     |      |       | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G34/16  |     |     | D   |     |      |       | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G34/24  |     |     | D   |     |      |       | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G36/16  |     |     | D   |     |      |       | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G36/24  |     |     | D   |     |      |       | D    | D   | D   | D    |       |        |        |       |       |      |      |       |        |         |
| G40/24  |     |     | D/T |     |      |       | D/T  | D/T | D/T | D/T  | D/T   | D/T    |        |       |       |      |      |       |        |         |
| G42/24  |     |     | D/T |     |      |       | D/T  | D/T | D/T | D/T  | D/T   | D/T    |        |       |       |      |      |       |        |         |
| G45/24  |     |     |     |     |      |       |      |     |     | D/T  | D/T   | D/T    | D/T    |       |       |      |      |       |        |         |
| G50/24  |     |     |     |     |      |       |      |     |     |      | D/T   | D/T    | D/T    | D/T   |       |      |      |       |        |         |
| G60/24  |     |     |     |     |      |       |      |     |     |      | D/T/Q | D/T/Q  | D/T/Q  | D/T/Q | D/T/Q |      |      |       |        |         |
| G70/24  |     |     |     |     |      |       |      |     |     |      |       |        | T/Q    | T/Q   | T/Q   | T/Q  | T/Q  |       |        |         |
| G85/24  |     |     |     |     |      |       |      |     |     |      |       |        |        | T/Q   | T/Q   | T/Q  |      |       |        |         |
| G105/28 |     |     |     |     |      |       |      |     |     |      |       |        |        |       |       |      |      | Q     | Q      | Q       |
| G125/28 |     |     |     |     |      |       |      |     |     |      |       |        |        |       |       |      |      | Q     | Q      | Q       |

Table 1.3: Compatibility table, fire balloons G (D:Double burner; T:Triple burner; Q:Quad burner)



## SECTION 2: fire balloons M

### A. GENERAL, All Types and Models

#### I. General

- |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type/Variant or Model        | Fire balloons M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2. Airworthiness Category       | Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3. Type Certificate Holder      | Pasha Balloons, prizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4. Manufacturer                 | Pasha Balloons, prizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G<br><br>Theo Schroeder fire balloons GmbH<br>Gewerbegebiet Am Bahnhof 12<br>54338 Schweich<br>Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5. National certification Date  | 6 April 1987, LBA TC No. 8025/BA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. LBA Application Date         | 14 February 1986                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7. EASA Type Certification Date | 2 May 2006                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8. TCDS History                 | <p>This EASA TCDS replaces the German TCDS Nr. 8025/BA issued by the LBA</p> <p>The EASA TCDS BA.010, model fire balloons S, was added to TCDS EASA.BA:016 with revision 17. The model fire balloons M was part of the model fire balloons G. It will be a separate model from revision 17 on. The serial numbers of model balloons S were in line with the serial numbers of the model fire balloons G. The models fire balloons S and fire balloons M will be undocked from the initial line and will each start a new serial number line starting at serial number 1, after serial number 1871.</p> <p>At revision 19 TCDS EASA.BA.016 has been transferred to Pasha Balloons d.o.o. and has been issued in accordance with Regulation (EU) No 2018/1139, in particular Article 77 1 (e) thereof and Regulation (EU) No 748/2012 Annex 1b</p> |



## II. Certification Basis

- |                                                           |                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Reference date for determining applicable requirements | 09.March 2009                                                                                                                                                                                                                                                                                                                                                         |
| 2. Certification Basis                                    | CS-31HB Amdt.0                                                                                                                                                                                                                                                                                                                                                        |
| 3. Airworthiness Requirements                             | CS-31HB Amdt.0                                                                                                                                                                                                                                                                                                                                                        |
| 4. Elected to Comply Requirements                         | <p>Additional requirements for take-off devices for hot air and gas balloons LBA endorsement I 431-523.2/88, 28 June 1988</p> <p>Additional requirements for a registration in the category "Commercial Transport" (TM 8025-15, see also V.3)</p> <p>Certification Specifications for Hot Air Balloons CS-31HB Amendment 1, 5 December 2011 for Polyester fabric.</p> |
| 5. Special Conditions                                     | none                                                                                                                                                                                                                                                                                                                                                                  |
| 6. Exemptions                                             | none                                                                                                                                                                                                                                                                                                                                                                  |
| 7. Equivalent Safety Findings                             | None                                                                                                                                                                                                                                                                                                                                                                  |

## III. Technical Characteristics and Operational Limitations

- |                           |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type Design Definition | Drawing List Issue January 1987, LBA-approved, as well as subsequent approved editions and changes                                                                                                                                                                                                                                                                                                                       |
| 2. Description/Dimensions | Manned hot air balloon for recreational flying or commercial passenger transport (see V.3).                                                                                                                                                                                                                                                                                                                              |
| 3. Envelope               | Slim shaped envelopes made of Polyester or Nylon fabric with volumes of 1800; 2000 and 2200 m <sup>3</sup> with 24 vertical load tapes. The following deflation systems are applicable to the envelopes: Parachute system, Paraquick system; Smart Vent, Para Vent, Easy Vent and the modification of existing Paraquick systems. One or more rotation valves are optional. Envelopes may be equipped with "top windows" |
| 4. Basket                 | Conventional braided baskets with solid floor, see table 4.3 "baskets" in section 4.                                                                                                                                                                                                                                                                                                                                     |
| 5. Burner                 | Conventional single or clustered burners see table 4.2 "burners" in section 4                                                                                                                                                                                                                                                                                                                                            |
| 6. Fuel cylinders         | Thin-walled pressure vessels made of stainless steel see table 4.4 "fuel cylinders" in section 4.                                                                                                                                                                                                                                                                                                                        |
| 7. Equipment              | <ul style="list-style-type: none"> <li>- Altimeter</li> <li>- Rate of climb/descent indicator</li> <li>- Indicator for the limit temperature of the envelope</li> <li>- Pressure gauge for each burner</li> <li>- Remaining quantity gauge for each fuel cylinder</li> <li>- Fire extinguisher</li> <li>- Heat resistant gloves</li> <li>- Alternative source of ignition</li> </ul>                                     |
| 8. Occupancy              | Maximum number of occupants is 5                                                                                                                                                                                                                                                                                                                                                                                         |



Minimum crew is 1 pilot

The number of occupants in combination with the number of fuel cylinders for each basket size is described in the data matrix of the Flight Manual

9. Maximum Mass

The maximum take-off weight is described in the data matrix of the Flight Manual

10. Life Limit Parts

see Maintenance Manual

11. Envelope Temperature

110°C (230 °F)

The maximum take-off mass as well as the maximum basket payload must not exceed the values laid down in the data matrix of the Flight Manual

#### IV. Operating and Service Instructions

1. Operating Instructions

Flight Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, and subsequent approved supplements and changes

Flight Manual fire balloons G, Issue November 2001, and subsequent approved supplements and changes

2. Service Instructions

Maintenance Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, and subsequent supplements and changes

Maintenance Manual Schroeder fire balloons GmbH, Issue 1, Amendment 0, October 2011, and subsequent changes and supplements.

Applicability: all fire balloons M with burner FB 6; refer to Maintenance Manual Annex 1 concerning 'out of production' components

#### V. Notes

1. Manufacturing is confined to industrial production
2. The combination of a fire balloons M envelope with Cameron Balloons parts of Cameron Hot Air Balloons (BA.013 Cameron HAB) is described by the Technical Note TM 8025-5, including subsequent approved revisions.
3. The use for commercial passenger transport according to the stipulations of the Technical Note TM 8025-15, LBA-approved dated 14 March 1991, as well as subsequent approved revisions, is permitted.
4. The Flight Manual fire balloons M, Issue November 2001, is mandatory for all serial numbers from manufacturing date 1. November 2001 onwards.
5. The combination of a fire balloons M envelope with Thunder&Colt parts of Cameron Hot Air Balloons (BA.013 Cameron HAB) is described by the Technical Note TM 8025-36, including subsequent approved revisions.
6. The combination of a fire balloons M envelope with parts of Ultramagic Hot Air Balloons (BA.014 Ultramagic HAB) is described by the Technical Note TM 8025-45, including subsequent approved revisions.
7. The combination of a fire balloons M envelope with parts of Lindstrand Hot Air Balloons Ltd (BA.021, BA.501, BA.502, BA.503, BA.504, BA.505, BA.506) is described by the Technical Note TM EASA.BA.016-44, including subsequent approved revisions.
8. The combination of a fire balloons M envelope with parts of Cameron Balloons Ltd (BA.013) is described by the Technical Note TM EASA.BA.016-42, including subsequent approved



- revisions.
9. The combination of a fire balloons M envelope with parts of Aerostar International Inc. is regulated by the Technical Note TM EASA.BA.016-48, including subsequent approved revisions.
  10. The combination of a fire balloons M envelope with parts of Balóny Kubíček spol. s r. o. is defined by the Technical Note TM EASA.BA.016-51, including subsequent approved revisions.
  11. Envelopes up to and including S/N 1995 are defined by the legacy drawing configuration system. Envelopes S/N 1996 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).

## B. TYPE DEFINITION AND CERTIFICATION DATA, fire balloons M

### I. Certification Information

| Model  | Volume (m³) | Gores (pcs) | MTOM (kg) | Appr. Weight (kg) | Drawing No.     |
|--------|-------------|-------------|-----------|-------------------|-----------------|
| M18/24 | 1800        | 24          | 535       | 70                | M1824-M-01-0001 |
| M20/24 | 2000        | 24          | 630       | 80                | M2024-M-01-0001 |
| M22/24 | 2200        | 24          | 692       | 90                | M2224-M-01-0001 |

Table 2.1: Envelope data, fire balloons M

| Model  | Airworthiness Requirements | Certification Basis | Certification Date |
|--------|----------------------------|---------------------|--------------------|
| M18/24 | CS-31HB; Amdt.0            | CS-31HB; Amdt.0     | 27.04.2009         |
| M20/24 | CS-31HB; Amdt.0            | CS-31HB; Amdt.0     | 27.04.2009         |
| M22/24 | CS-31HB; Amdt.0            | CS-31HB; Amdt.0     | 27.04.2009         |

Table 2.2: Envelope certification information, fire balloons M

### II. Combination Information

| MODEL  | M/2 | M/3 | I/2 | I/3 | III/4 | IV/5 |
|--------|-----|-----|-----|-----|-------|------|
| M18/24 | D   | D   | D   | D   | D     | D    |
| M20/24 | D   | D   | D   | D   | D     | D    |
| M22/24 |     | D   | D   | D   | D     | D    |

Table 2.3: Compatibility table, fire balloons M (D:Double burner; T:Triple burner; Q:Quad burner)



## SECTION 3: fire balloons S

### A. GENERAL, All Types and Models

#### I. General

- |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type/Variant or Model        | fire balloons S - Special shape hot air balloons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2. Airworthiness Category       | Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3. Type Certificate Holder      | Pasha Balloons, proizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4. Manufacturer                 | Pasha Balloons, proizvodnja in trgovina, d.o.o.<br>SI-9000 Murska Sobota<br>Murska Sobota<br>Tisinska ulica 029 G<br><br>Theo Schroeder fire balloons GmbH<br>Gewerbegebiet Am Bahnhof 12<br>54338 Schweich<br>Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5. Type certification Date      | see Table 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6. LBA Application Date         | see Table 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7. EASA Type Certification Date | 19. July 2005                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 8. TCDS History                 | <p>The TCDS EASA.BA.010, issued 19 July 2005 encompassed only the "Kasper" model. The re-issued TC references to the "fire balloons S" type. The TCDS EASA.BA.010, Issue 2 has been modified to comprise further special shape envelopes.</p> <p>The EASA TCDS BA.010, model fire balloons S, was added to TCDS EASA.BA:016 with revision 17. The model fire balloons M was part of the model fire balloons G. It will be a separate model from revision 17 on. The serial numbers of model balloons S were in line with the serial numbers of the model fire balloons G. The models fire balloons S and fire balloons M will be undocked from the initial line and will each start a new serial number line starting at serial number 1, after serial number 1871.</p> <p>At revision 19 TCDS EASA.BA.016 has been transferred to Pasha Balloons d.o.o. and has been issued in accordance with Regulation (EU) No 2018/1139, in particular Article 77 1 (e) thereof and Regulation (EU) No 748/2012 Annex 1b</p> |



## II. Certification Basis

- |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Reference date for determining applicable requirements | see Table 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Certification Basis                                    | See Table 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3. Airworthiness Requirements                             | <ul style="list-style-type: none"> <li>- Airworthiness Requirements for Hot Air Balloons (LFHB), Issue 23. February 1982</li> <li>- Certification Specifications for Hot Air Balloons CS-31HB, final CG9 draft 27. Feb 2003</li> <li>- Certification Specifications for Hot Air Balloons CS-31HB Amdt. 1, issue February 2009</li> <li>- For details see Table 3.1 and 3.2</li> </ul>                                                                                                  |
| 4. Elected to Comply Requirements                         | <ul style="list-style-type: none"> <li>- Additional requirements for take-off devices for hot air and gas balloons LBA endorsement I 431-523.2/88, 28 June 1988</li> <li>- Additional requirements for a registration in the category "Commercial Transport" (TM 8025-15)</li> <li>- Certification Specifications for Hot Air Balloons CS-31HB Amendment 1, 5 December 2011 for Polyester fabric and envelopes with a volume of 10500 m<sup>3</sup> and 12500 m<sup>3</sup></li> </ul> |
| 5. Special Conditions                                     | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6. Exemptions                                             | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7. Equivalent Safety Findings                             | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## III. Technical Characteristics and Operational Limitations

- |                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type Design Definition | Fire balloons drawing list in combination with envelope specific overview drawing and approved subsequent supplements and changes; see Table 3.2                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2. Description/Dimensions | Manned hot air balloon special shape for recreational flying or commercial passenger transport. Special shape envelopes with a volume range between 2,600 and 7000 m <sup>3</sup> . Some shapes have additional fabric formers, tapes and lines. Envelopes built from conventional envelope materials, vertical and horizontal tapes; breather holes in primary structure to supply add-ons with pressure; the following deflation systems can be installed: Parachute system, Paraquick system; Smart Vent, Para Vent, Easy Vent and the modification of existing Paraquick systems. |
| 3. Envelope               | see Table 3.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. Basket                 | Conventional braided baskets with solid floor, see table 3.3 "Applicable baskets" and Table 4.3 "Baskets" in section 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5. Burner                 | Conventional burner see table 3.3 and table 4.2 "Burners" in section 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 6. Fuel cylinders         | Thin-walled pressure vessels made of stainless steel see table 4.4 "Fuel cylinders" in section 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7. Equipment              | <ul style="list-style-type: none"> <li>- Altimeter</li> <li>- Rate of climb/descent indicator</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



- Indicator for the limit temperature of the envelope
- Pressure gauge for each burner
- Remaining quantity gauge for each fuel cylinder
- Fire extinguisher
- Heat resistant gloves
- Alternative source of ignition

8. Occupancy

Maximum number of occupants is 15

Minimum crew is 1 pilot

The number of occupants in combination with the number of fuel cylinders for each basket size is described in the data matrix of the Flight Manual

9. Maximum Mass

see table 3.1

10. Life Limit Parts

see Maintenance Manual

11. Envelope Temperature

110°C (230 °F)

The maximum take-off mass as well as the maximum basket payload must not exceed the values laid down in the data matrix of the Flight Manual

#### IV. Operating and Service Instructions

1. Operating Instructions

Flight Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, including envelope specific supplemental pages; in each case in its effective issue as well as approved subsequent supplements and changes.

Flight Manual fire balloons G, Issue November 2001 including envelope specific supplemental pages; in each case in its effective issue, and subsequent approved supplements and changes.

2. Service Instructions

Maintenance Manual for the type fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, and subsequent supplements and changes

Maintenance Manual Schroeder fire balloons GmbH, Issue 1, Change 0, October 2011, and subsequent changes and supplements

Applicability: all fire balloons S with burner FB 6; refer to Maintenance Manual Annex 1 concerning 'out of production' components

#### V. Notes

1. Manufacturing is confined to industrial production
2. Some envelope models are limited to serial numbers; see Table 3.2
3. Envelopes up to and including S/N 1995 are defined by the legacy drawing configuration system. Envelopes S/N 1996 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).



**B. TYPE DEFINITION AND CERTIFICATION DATA, fire balloons S****I. Certification Information**

| Model        | Volume (m³) | MTOM (kg) | Appr. Weight (kg) | Drawing No.           | Remarks                       |
|--------------|-------------|-----------|-------------------|-----------------------|-------------------------------|
| Teekanne     | 3200        | 975       | 154               | TEEKANNE-S-01-0001    | -/-                           |
| Teefix       | 3200        | 975       | 153               | TEEFIX-S-01-0001      | -/-                           |
| Ottifant     | 3100        | 975       | 144               | OTTIFANT-S-01-0001    | -/-                           |
| Gutfried     | 3000        | 910       | 188               | GUTFRIED-S-01-0001    | -/-                           |
| Bierglas     | 2650        | 850       | 106               | BIERGLAS-S-01-0001    | -/-                           |
| Kopfhörer    | 3600        | 1040      | 147               | KOPFHÖRER-S-01-0001   | -/-                           |
| Erdbeere     | 2600        | 820       | 126               | ERDBEERE-S-01-0001    | -/-                           |
| Katze        | 3000        | 910       | 149               | KATZE-S-01-0001       | -/-                           |
| Kater        | 3000        | 910       | 149               | KATER-S-01-0001       | -/-                           |
| Pinguin      | 3800        | 1200      | 214               | PINGUIN-S-01-0001     | -/-                           |
| Vase         | 3200        | 910       | 178               | VASE-S-01-0001        | -/-                           |
| Kopf         | 3300        | 1040      | 220               | KOPF-S-01-0001        | -/-                           |
| Maus         | 2600        | 820       | 286               | MAUS-01-0001          | -/-                           |
| Lefax        | 3600        | 1040      | 246               | LEFAX-S-01-0001       | -/-                           |
| Gasflasche   | 3000        | 910       | 220               | GASFLASCHE-S-01-0001  | -/-                           |
| Gasbehälter  | 3000        | 900       | 228               | GASBEHALTER-S-01-0001 | -/-                           |
| Schwartau    | 4000        | 994       | 180               | SCHWARTAU-S-01-0001   | -/-                           |
| Auto         | 3600        | 916       | 216               | AUTO-S-01-0001        | -/-                           |
| Clown-Kopf   | 3000        | 900       | 155               | CLOWNKOPF-S-01-0001   | -/-                           |
| Kasper       | 4300        | 1040      | 233               | KASPER-S-01-0001      | -/-                           |
| Sky Heart    | 4300        | 1040      | 245               | SKYHEART-S-01-0001    | No breather holes             |
| Cat          | 3000        | 910       | 149               | CAT-S-01-0001         | -/-                           |
| Pig 30       | 3000        | 910       | 162               | PIG30-S-01-0001       | -/-                           |
| Pig 36       | 3600        | 1040      | 198               | PIG36-S-01-0001       | -/-                           |
| Sunflower 36 | 4200        | 1150      | 274               | SUNFLOWER36-S-01-0001 | -/-                           |
| Euter        | 3400        | 1040      | 160               | EUTER-S-01-0001       | based on type fire balloons G |
| t'Zusje      | 7000        | 2205      | 279               | T'ZUSJE-S-01-0001     | based on type fire balloons G |

Table 3.1: Envelope data, fire balloons S

| Model     | Airworthiness Code | Certification Basis            | Application | Certification Date | Remarks                                                          |
|-----------|--------------------|--------------------------------|-------------|--------------------|------------------------------------------------------------------|
| Teekanne  | LFHB, 23 Feb 1982  | I 431-8028/88<br>09.Feb.1988   | 02.02.1988  | 14.04.1988         | initial data sheet: LBA 8028; §41 Abs. 2 LuftGerPO; s/n 30 only  |
| Teefix    | LFHB, 23 Feb 1982  | I 431-8028/88<br>04. Apr. 1988 | 18.04.1988  | 3.05.1988          | initial data sheet: LBA 8028a; §41 Abs. 2 LuftGerPO; s/n 31 only |
| Ottifant  | LFHB, 23 Feb 1982  | I 431-8029/88<br>03. Juni 1988 | 19.05.1988  | 30.12.1988         | initial data sheet: LBA 8029                                     |
| Gutfried  | LFHB, 23 Feb 1982  | I 431-8030/89<br>10. Mai 1989  | 20.04.1989  | 2.11.1989          | initial data sheet: LBA 8030; §41 Abs. 2 LuftGerPO; s/n 64 only  |
| Bierglas  | LFHB, 23 Feb 1982  | I 431-8034/90<br>16. Juli 1990 | 06.07.1990  | 30.11.1990         | initial data sheet: LBA 8034                                     |
| Kopfhörer | LFHB, 23 Feb 1982  | I 431-8039/92<br>15. Juni 1992 | 10.04.1992  | 15.06.1992         | initial data sheet: LBA 8039; §41 Abs. 2 LuftGerPO; s/n 262 only |
| Erdbeere  | LFHB, 23 Feb 1982  | I 431-8041/92<br>03. Aug. 1992 | 25.08.1992  | 19.10.1992         | initial data sheet: LBA 8041                                     |
| Katze     | LFHB, 23 Feb 1982  | I 431-8042/92<br>07. Aug. 1992 | 25.08.1992  | 25.09.1992         | initial data sheet: LBA 8042; §41 Abs. 2 LuftGerPO; s/n 305 only |



|                     |                                            |                                  |            |            |                                                                      |
|---------------------|--------------------------------------------|----------------------------------|------------|------------|----------------------------------------------------------------------|
| <b>Kater</b>        | LFHB, 23 Feb 1982                          | I 431-8042a/92<br>20.Nov.1992    | 10.11.1992 | 19.11.1992 | initial data sheet: LBA 8042A; §41 Abs. 2<br>LuftGerPO; s/n 311 only |
| <b>Pinguin</b>      | LFHB, 23 Feb 1982                          | I431-8045/93<br>01.Juni 1993     | 25.05.1993 | 11.08.1998 | initial data sheet: LBA 8045                                         |
| <b>Vase</b>         | LFHB, 23 Feb 1982                          | I 431-8058/95<br>23.März 1995    | 22.03.1995 | 10.07.1995 | initial data sheet: LBA 8058                                         |
| <b>Kopf</b>         | LFHB, 23 Feb 1982                          | I431-8067/96<br>18.Nov.1996      | 11.11.1996 | 16.01.1997 | initial data sheet: LBA 8067                                         |
| <b>Maus</b>         | LFHB, 23 Feb 1982                          | I431-8071/97<br>15.Mai 1997      | 13.05.1997 | 14.10.1997 | initial data sheet: LBA 8071; §41 Abs. 2<br>LuftGerPO; s/n 614 only  |
| <b>Lefax</b>        | LFHB, 23 Feb 1982                          | I431-8072/97<br>13.Juni 1997     | 10.06.1997 | 3.09.1997  | initial data sheet: LBA 8072                                         |
| <b>Gasflasche</b>   | LFHB, 23 Feb 1982                          | M332-8073/98.1, 8<br>Sep 1998    | 27.08.1998 | 27.11.1998 | initial data sheet: LBA 8073                                         |
| <b>Gasbehälter</b>  | LFHB, 23 Feb 1982                          | M332-8073a, 27 Apr<br>2001       | 23.04.2001 | 19.07.2001 | initial data sheet: LBA 8073A                                        |
| <b>Schwartau</b>    | LFHB, 23 Feb 1982                          | M332-8077/99<br>27Apr.1999       | 23.04.1999 | 27.05.1999 | initial data sheet: LBA 8077; §41 Abs. 2<br>LuftGerPO; s/n 731 only  |
| <b>Auto</b>         | LFHB, 23 Feb 1982                          | M331-8078/99<br>02.Juni 1999     | 28.05.1999 | 16.11.1999 | initial data sheet: LBA 8078                                         |
| <b>Clown-Kopf</b>   | LFHB, 23 Feb 1982                          | M332-8083, 27 Sep<br>2002        | 25.09.2002 | 16.12.2002 | initial data sheet: LBA 8083                                         |
| <b>Kasper</b>       | CS-31HB, final<br>CG9 draft 27 Feb<br>2003 | CRI A-01, Iss. 2, 16<br>Apr 2004 | 12.11.2003 | 11.07.2005 | -/-                                                                  |
| <b>Sky Heart</b>    | CS-31HB, final<br>CG9 draft 27 Feb<br>2003 | CRI A-01, Iss. 1, 18<br>Dec 2008 | 11.04.2008 | 18.12.2008 | -/-                                                                  |
| <b>Cat</b>          | LFHB, 23 Feb 1982                          | CRI A-01, Iss. 1, 23<br>Jun 2009 | 11.06.2009 | 24.06.2009 | initial data sheet: LBA 8042                                         |
| <b>Pig 30</b>       | CS-31HB, Feb<br>2009                       | CRI A-01, Iss. 1, 3<br>Dec 2010  | 30.04.2010 | 16.12.2010 | -/-                                                                  |
| <b>Pig 36</b>       | CS-31HB, Feb<br>2009                       | CRI A-01, Iss. 1, 15<br>Dec 2010 | 07.12.2010 | 16.12.2010 | -/-                                                                  |
| <b>Sunflower 36</b> | CS-31HB, Feb<br>2009                       | CRI A-01, Iss. 2, 1 Jun<br>2011  | 21.03.2011 | 5.08.2011  | -/-                                                                  |
| <b>Euter</b>        | CS-31HB Amdt.1                             | CS-31HB Amdt.1                   | 25.07.2018 | 3.08.2018  | based on type fire<br>balloons G                                     |
| <b>t'Zusje</b>      | CS-31HB Amdt.1                             | CS-31HB Amdt.1                   | 29.11.2021 | 30.06.2022 | based on type fire<br>balloons G                                     |

Table 3.2: Envelope certification information, fire balloons S



## II. Combination Information

| Model        | M/5 | III/4 | V-A | IV/5 | V/5 | VI/6 | VIII/9 | IX/10 | IX/11 | X/13 | X/15 |
|--------------|-----|-------|-----|------|-----|------|--------|-------|-------|------|------|
| Teekanne     | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Teefix       | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Ottifant     | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Gutfried     | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Bierglas     | D   | D     | D   | D    | D   |      |        |       |       |      |      |
| Kopfhörer    | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Erdbeere     | D   | D     | D   | D    | D   |      |        |       |       |      |      |
| Katze        | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Kater        | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Pinguin      | D-T |       | D-T | D-T  | D-T | D-T  |        |       |       |      |      |
| Vase         | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Kopf         | D   |       | D   | D    | D   | D    |        |       |       |      |      |
| Maus         | D   | D     | D   | D    | D   | D    |        |       |       |      |      |
| Lefax        | D   |       | D   | D    | D   | D    |        |       |       |      |      |
| Gasflasche   | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Gasbehälter  | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Schwartau    | D-T |       | D-T | D-T  | D-T | D-T  |        |       |       |      |      |
| Auto         | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Clown-Kopf   | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Kasper       | D-T |       | D-T | D-T  | D-T |      |        |       |       |      |      |
| Sky Heart    | D-T |       | D-T | D-T  | D-T | D-T  |        |       |       |      |      |
| Cat          | D   |       | D   | D    | D   |      |        |       |       |      |      |
| Pig 30       | D   |       | D   | D    | D   | D    |        |       |       |      |      |
| Pig 36       | D   |       | D   | D    | D   | D    |        |       |       |      |      |
| Sunflower 36 | D-T |       | D-T | D-T  | D-T | D-T  |        |       |       |      |      |
| Euter        | D   |       | D   | D    | D   | D    |        |       |       |      |      |
| t'Zusje      |     |       |     |      |     |      | T-Q    | T-Q   | T-Q   | T-Q  | T-Q  |

Table 3.3: Compatibility table, fire balloons S (D:Double burner; T:Triple burner; Q:Quad burner)

## III. Flight / Maintenance Manual Information

| Envelope         | Flight Manual pages                                                                                                                                                                                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Teekanne</b>  | Flight Manual "Teekanne" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001     |
| <b>Teefix</b>    | Flight Manual "Teefix" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001       |
| <b>Ottifant</b>  | Flight Manual "Ottifant" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as LBA-approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001 |
| <b>Gutfried</b>  | Flight Manual "Gutfried" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001     |
| <b>Bierglas</b>  | Flight Manual "Bierglas" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001     |
| <b>Kopfhörer</b> | Flight Manual "Kopfhörer" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001    |
| <b>Erdbeere</b>  | Flight Manual "Erdbeere" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001     |
| <b>Katze</b>     | Flight Manual "Katze" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001        |
| <b>Kater</b>     | Flight Manual "Kater" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as LBA-approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77,                     |



|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Issue April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Pinguin</b>                    | Flight Manual "Pinguin" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Vase</b>                       | Flight Manual "Vase" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Kopf</b>                       | Flight Manual "Kopf" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>SECTION 3: fire balloons S</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Maus</b>                       | Flughandbuch "Maus" auf Basis des Flughandbuchs fire balloons, Ausgabe Januar 1987 sowie spätere anerkannte Änderungsstände ab September 1997, ergänzt durch die Seiten 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Ausgabe April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Lefax</b>                      | Flight Manual "Lefax" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Gasflasche</b>                 | <ol style="list-style-type: none"> <li>1) Flight Manual for the individual product "Gasflasche" on the basis of the Flight Manual fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, as well as approved subsequent supplements and changes from September 1997 onwards, supplemented by the pages 1, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1 und 77, Issue August 1998</li> <li>2) Flight Manual "Gasflasche" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001</li> </ol> |
| <b>Gasbehälter</b>                | Flight Manual for the individual product "Gasbehälter" on the basis of the Flight Manual fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, as well as approved subsequent supplements and changes from September 1997 onwards, supplemented by the pages 1, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1 und 77, Issue April 2001                                                                                                                                                                                                                                                                                                                                                   |
| <b>Schwartau</b>                  | <ol style="list-style-type: none"> <li>1) Flight Manual for the individual product "Schwartau" on the basis of the Flight Manual fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, as well as approved subsequent supplements and changes from September 1997 onwards, supplemented by the pages 1, 7, 8, 8a und 12.1, Issue April 1999</li> </ol> Flight Manual "Schwartau" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001                                                        |
| <b>Auto</b>                       | <ol style="list-style-type: none"> <li>1) Flight Manual for the individual product "Auto" on the basis of the Flight Manual fire balloons G of Theo Schroeder fire balloons GmbH, Issue January 1987, as well as approved subsequent supplements and changes from September 1997 onwards, supplemented by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001</li> <li>2) Flight Manual "Auto" on the basis of the Flight Manual fire balloons, Issue January 1987 as well as approved subsequent supplements and changes from September 1997, amended by the pages 1, 5.4, 7, 8.1, 11A, 14, 34, 34a, 36, 41, 53, 60, 68, 69.1, 77, Issue April 2001</li> </ol>            |
| <b>Clown-Kopf</b>                 | Flight Manual for the individual piece "Clown-Kopf", Issue November 2002, as well as LBA-approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Kasper</b>                     | Flight Manual fire balloons, issue November 2001, including supplemental pages "fire balloons Kasper" 9-13; 16-19; 35, 42, 43, 45, 46, 52, 81 and 95 dated June 2005 as well as approved subsequent supplements and changes Maintenance Manual fire balloons, issue January 1987 including supplemental pages "fire balloons Kasper" 21, 21a, 31a and 39.1, Juni 2005, as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                     |
| <b>Sky Heart</b>                  | Flight Manual fire balloons, issue November 2001, including supplemental pages "fire balloons Sky Heart" 2, 3, 9, 10-13, 42, 43, 45 and 46, dated September 2008 as well as approved subsequent supplements and changes Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Cat</b>                        | Flight Manual fire balloons, issue November 2001, including supplemental pages "fire balloons Cat" 9-13; 16-19; 35, 42, 43, 45, 46, 52, 81 and 95 dated June 2009 as well as approved subsequent supplements and changes Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Pig 30<br/>Pig 36</b>          | Flight Manual fire balloons, issue November 2001, plus Flight Manual Supplement "fire balloons Sparkasse Pig" dated 27 May 2011 as well as approved subsequent changes Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Sunflower 36</b>               | Flight Manual fire balloons, issue November 2001, plus Flight Manual Supplement "fire balloons Sunflower 36" dated December 2010 as well as approved subsequent changes Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Euter</b>                      | Flight Manual fire balloons, issue November 2001 and Flight Manual Supplement K.1 Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>t'Zusje</b>                    | Flight Manual fire balloons, issue November 2001 and Flight Manual Supplement K.1 Maintenance Manual fire balloons, issue January 1987 as well as approved subsequent supplements and changes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

Table 3.4: Flight and Maintenance Manual



#### IV. Notes

| Envelope          | Remarks                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Teekanne</b>   | When applying the Technical Note TM 8028/1-1 the Flight Manual "Teekanne", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                    |
| <b>Teefix</b>     | When applying the Technical Note TM 8028/1-1 the Flight Manual "Teefix", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                      |
| <b>Ottifant</b>   | 1) The use for commercial passenger transport according to the stipulations of the Technical Note TM 8029-1, LBA-approved dated 7 September 1992 is permitted<br>2) When applying the Technical Note TM 8029-2 the Flight Manual "Ottifant", Issue April 2001 and subsequent supplements and changes, becomes mandatory  |
| <b>Gutfried</b>   | 1) The use for commercial passenger transport according to the stipulations of the Technical Note TM 8030-1, LBA-approved dated 7 May 1992 is permitted<br>2) When applying the Technical Note TM 8030-2 the Flight Manual "Gutfried", Issue April 2001 and subsequent supplements and changes, becomes mandatory        |
| <b>Bierglas</b>   | When applying the Technical Note TM 8034-1 the Flight Manual "Bierglas", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                      |
| <b>Kopfhörer</b>  | 1) The use for commercial passenger transport according to the stipulations of the Technical Note TM 8030-1, LBA-approved dated 7 September 1992 is permitted<br>2) When applying the Technical Note TM 8030-1 the Flight Manual "Kopfhörer", Issue April 2001 and subsequent supplements and changes, becomes mandatory |
| <b>Erdbeere</b>   | 1) The use for commercial passenger transport according to the stipulations of the Technical Note TM 8030-1, LBA-approved dated 7 September 1992 is permitted<br>2) When applying the Technical Note TM 8041-1 the Flight Manual "Erdbeere", Issue April 2001 and subsequent supplements and changes, becomes mandatory  |
| <b>Katze</b>      | When applying the Technical Note TM 8041-1 the Flight Manual "Katze", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                         |
| <b>Kater</b>      | When applying the Technical Note TM 8041a-1 the Flight Manual "Kater", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                        |
| <b>Pinguin</b>    | 1) The use for commercial passenger transport according to the stipulations of the Technical Note TM 8030-1, LBA-approved dated 7 September 1992 is permitted<br>2) When applying the Technical Note TM 8045-1 the Flight Manual "Pinguin", Issue April 2001 and subsequent supplements and changes, becomes mandatory   |
| <b>Vase</b>       | When applying the Technical Note TM 8058-1 the Flight Manual "Vase", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                          |
| <b>Kopf</b>       | When applying the Technical Note TM 8067-1 the Flight Manual "Kopf", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                          |
| <b>Maus</b>       | When applying the Technical Note TM 8071-1 the Flight Manual "Maus", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                          |
| <b>Lefax</b>      | When applying the Technical Note TM 8072-1 the Flight Manual "Lefax", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                         |
| <b>Gasflasche</b> | When applying the Technical Note TM 8073-1 the Flight Manual "Gasflasche", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                    |
| <b>Schwartau</b>  | 1) Commercial passenger transport permissible when using steel cylinders VA 50 or VA 70<br>2) When applying the Technical Note TM 8077-1 the Flight Manual "Schwartau", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                       |
| <b>Auto</b>       | When applying the Technical Note TM 8078-1 the Flight Manual "Auto", Issue April 2001 and subsequent supplements and changes, becomes mandatory                                                                                                                                                                          |

Table 3.5: Specific notes to envelopes



## SECTION 4: Bottom End

### I. Load Frame

| Model    | Measures (cm) | Drawing No.      | Airworthiness Requirements | Certification Basis                           | Remarks                                                     |
|----------|---------------|------------------|----------------------------|-----------------------------------------------|-------------------------------------------------------------|
| 201.1    | 90 x 90       | 201.1            | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Individual piece for double, triple or quadruple burner     |
| 201.2    | 68,5 x 68,5   | 201.2            | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Up to 3600 m³, replaced by 201.6 / 201.7; out of production |
| BR680/S  | 68 x 68       | BR680-D-01-0001  | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Fixed frame for single burners with corresponding joint     |
| BR730/M  | 73 x 73       | BR730-A-01-0001  | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Frame for double, triple or quadruple burner                |
| BR730/H  | 73 x 73       | BR730-B-01-0001  | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Frame with gas spring height adjustment for double burner   |
| BR730/F  | 73 x 73       | BR730-C-01-0001  | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Fixed small frame with cardan joint for double burner       |
| BR1030/M | 103 x 103     | BR1030-A-01-0001 | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Frame for double, triple or quadruple burner                |
| BR1030/H | 103 x 103     | BR1030-B-01-0001 | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Frame with hydraulic height adjustment for double burner.   |
| BR2000/M | 200 x 130     | BR2000-A-01-0001 | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Mechanically adjustable in height for quadruple burner      |
| BR2000/F | 200 x 130     | BR2000-C-01-0001 | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Fixed frame for quadruple burner                            |

Table 4.1: Load frame data

### II. Burner

| Model     | Configuration                   | Drawing No.                                     | Airworthiness Requirements | Certification Basis                           | Envelope Range                                                                            |
|-----------|---------------------------------|-------------------------------------------------|----------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------|
| OPTIMA I  | Single                          | 200.1                                           | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Up to 2000 m³                                                                             |
| OPTIMA II | Double;<br>Triple;<br>Quadruple | 200.2                                           | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Double up to 4500 m³;<br>Triple from 4000 m³ to 8500 m³;<br>Quad from 6000 m³ to 8500 m³  |
| OPTIMA IV | Double;<br>Triple;<br>Quadruple | 200.10                                          | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Double up to 4500 m³;<br>Triple from 4000 m³ to 7000 m³;<br>Quad from 6000 m³ to 8500 m³  |
| FB V      | Double;<br>Triple;<br>Quadruple | 200.30                                          | LFHB; 23 Feb.1982          | LBA letter I 33 - 8025/86, dated 5 March 1986 | Double up to 4500 m³;<br>Triple from 4000 m³ to 8500 m³;<br>Quad from 6000 m³ to 8500 m³  |
| FB 6      | Double;<br>Triple;<br>Quadruple | 201.30                                          | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Double up to 4500 m³;<br>Triple from 4000 m³ to 8500 m³;<br>Quad from 6000 m³ to 12500 m³ |
| FB 7      | Double;<br>Triple;<br>Quadruple | FB7-D-01-0001<br>FB7-T-01-0001<br>FB7-Q-01-0001 | CS-31HB Amdt. 1            | CS-31HB Amdt. 1                               | Double up to 6000 m³;<br>Triple from 4000 m³ to 8500 m³;<br>Quad from 6000 m³ to 12500 m³ |

Table 4.2: Burner Data

Double-, triple and quadruple burners FBV, FB6 and FB 7 each consist of separate burner units. The triple burner Optima IV for volumes from 4000m³ until 7000m³ consists of a double burner Optima IV and a single unit of the Optima IV burner. The allocation in respect to the envelope volumes is described in the data matrix of the Flight Manual.

Burners up to and including S/N 2.5181 are defined by the legacy drawing configuration system. Burners S/N 2.5182 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).



### III. Basket

| Model  | Dimensions (cm)         | Payload (kg) | Drawing No.                      | Airworthiness Requirements | Certification Basis                                    | Envelope Range (m <sup>3</sup> ) | Applicable Load Frames                                                     |
|--------|-------------------------|--------------|----------------------------------|----------------------------|--------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------|
| M/2    | 115 x 90                | 406          | M2-A-01-0001                     | CS-31HB<br>Amdt. 1         | CRI A-1 to TM<br>EASA.BA.016-55                        | 1200 – 2200                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR680/S,<br>BR730/F                      |
| M/3    | 130 x 100               | 450          | M3-A-01-0001                     | CS-31HB<br>Amdt. 1         | CRI A-1 to TM<br>EASA.BA.016-57                        | 1700 – 2600                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR680/S,<br>BR730/F                      |
| M/5    | 155 x 120               | 700          | M5-A-01-0001                     | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 1700 – 4250                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR730/F                                  |
| I/2    | 107 x 95                | 316          | I2-A-01-0001                     | LFHB; 23<br>Feb. 1982      | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 1200 – 1700                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR680/S,<br>BR730/F                      |
| II/3   | 125 x 100               | 406          | II3-A-01-0001                    | LFHB; 23<br>Feb. 1982      | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 1300 – 2400                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR680/S,<br>BR730/F                      |
| III/4  | 130 x 115               | 550          | III4-A-01-0001                   | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 1300 – 3100                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR680/S,<br>BR730/F                      |
| IV/5   | 145 x 115               | 650          | IV5-A-01-0001                    | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 1700 – 4250                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR730/F                                  |
| V/5    | 155 x 120               | 700          | V5-A-01-0001                     | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 1700 – 4250                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR730/F                                  |
| V-A    | 155 x 120               | 700          | 300.1                            | LFHB; 23<br>Feb. 1982      | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 1700 – 4250                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR730/F                                  |
| VI/P   | 180 x 140               | 500          | VIP-G-01-0001                    | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 2600 – 4250                      | 201.2,<br>BR730/M,<br>BR730/H,<br>BR730/F                                  |
| VI/6   | 175 x 125               | 800          | VI6-A-01-0001<br>VI6-B-01-0001   | CS-31HB<br>Amdt. 1         | CS-31HB<br>Amdt. 1                                     | 2900 – 4500                      | 201.1, 201.2,<br>BR730/M,<br>BR1030/M,<br>BR730/H,<br>BR1030/H,<br>BR730/F |
| VII/7  | 180 x 140;<br>215 x 145 | 815          | VII7-B-01-0001<br>VII7-C-01-0001 | LFHB; 23<br>Feb. 1982      | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 4000 – 6000                      | 201.1,<br>BR1030/M,<br>BR1030/H                                            |
| VIII/8 | 215 x 140;<br>245 x 145 | 975          | VIII8-C-01-0001                  | LFHB; 23<br>Feb. 1982      | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 4000 – 6000                      | 201.1,<br>BR1030/M,<br>BR1030/H                                            |



|         |                         |      |                                                        |                       |                                                        |                  |                                  |
|---------|-------------------------|------|--------------------------------------------------------|-----------------------|--------------------------------------------------------|------------------|----------------------------------|
| VIII/9  | 235 x 140;<br>260 x 145 | 1065 | VIII9-B-01- 0001<br>VIII9-C-01-0001<br>VIII9-D-01-0001 | LFHB; 23<br>Feb. 1982 | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 4500 –7000       | 201.1,<br>BR1030/M,<br>BR1030/H, |
| IX/10   | 230 x 165               | 1065 | IX10-B-01-0001<br>IX10-C-01-0001                       | CS-31HB<br>Amdt. 1    | CS-31HB<br>Amdt. 1                                     | 5000 –7000       | 201.1,<br>BR1030/M,<br>BR1030/H, |
| IX/11   | 250 x 170;<br>275 x 150 | 1200 | IX11-B-01-0001<br>IX11-C-01-0001<br>IX11-D-01-0001     | LFHB; 23<br>Feb. 1982 | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 6000 –8500       | 201.1,<br>BR1030/M               |
| X/13    | 275 x 175;<br>300 x 170 | 1700 | X13-D-01-0001                                          | LFHB; 23<br>Feb. 1982 | LBA letter I 33<br>- 8025/86,<br>dated 5 March<br>1986 | 7000 –8500       | 201.1,<br>BR1030/M               |
| X/15    | 300 x 170               | 1700 | X15-D-01-0001                                          | CS-31HB<br>Amdt. 1    | CRI A-1 to TM<br>EASA.BA.016-<br>52                    | 7000 –8500       | 201.1,<br>BR1030/M               |
| XI/19   | 365 x 165;<br>380 x 180 | 2400 | XI19-D-01-0001                                         | CS-31HB<br>Amdt. 1    | CS-31HB<br>Amdt. 1                                     | 10500 –<br>12500 | BR2000/M,<br>BR2000/F            |
| XII/23  | 425 x 165;<br>440 x 180 | 2800 | XII23-D-01-0001                                        | CS-31HB<br>Amdt. 1    | CS-31HB<br>Amdt. 1                                     | 10500 –<br>12500 | BR2000/M,<br>BR2000/F            |
| XIII/27 | 485 x 165;<br>500 x 180 | 3200 | XIII27-D-01-0001                                       | CS-31HB<br>Amdt. 1    | CS-31HB<br>Amdt. 1                                     | 10500 –<br>12500 | BR2000/M,<br>BR2000/F            |

Table 4.3: Basket Data

Open baskets II/3 to VI/6 can be equipped with one door and/or one seat. Baskets from VII/7 to X/15 with 1 or 2 doors and/or 1 or 2 seats. The applicable envelope size, maximum basket payload and the maximum permissible number of occupants and fuel cylinders is described in the data matrix of the Flight Manual.

Baskets up to and including S/N 3.5168 are defined by the legacy drawing configuration system. Baskets S/N 3.5169 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).

#### IV. Fuel Cylinder

| Model | Measures (cm)    | Volume (l) | Fuel Capacity (kg) | Drawing No.    | Airworthiness Code |
|-------|------------------|------------|--------------------|----------------|--------------------|
| VA 50 | Ø350;<br>h = 880 | 50         | 21,2               | VA50-A-01-0001 | LFHB 23 Feb. 1982  |
| VA 70 | Ø400;<br>h = 920 | 70         | 30                 | VA70-A-01-0001 | LFHB 23 Feb. 1982  |

Table 4.4: Fuel Cylinder Data

All cylinders are equipped with the following parts:

- Vapor take-off valve
- Pressure relief valve (included in the vapour valve)
- Remaining content gauge
- Liquid take-off valve
- Bleed valve
- Protective cover of the vessel and padding of the upper safety ring
- Optional equipment: pressure reducer for vapor pilot lights or a automated Fill-stop

All equipment is described in the flight- and maintenance manual

Fuel cylinders up to and including S/N 5358 for model VA 50 and S/N 3499 for model VA 70 are defined by the legacy drawing configuration system. Fuel cylinders S/N 5359 for VA 50 and S/N 3500 for VA 70 and subsequent are defined in accordance with the revised Master Drawing List (Pasha Balloons d.o.o. MDL, Issue 01).

