

European Aviation Safety Agency

EASA

**TYPE CERTIFICATE
DATA SHEET**

BB

Manned Free Hot Air Balloon

Type Certificate Holder: **BALÓNY KUBÍČEK spol. s r.o.**
Francouzská 81
602 00 Brno
CZECH REPUBLIC

Manufacturer: **Kubíček spol. s r.o.**
Francouzská 81
602 00 Brno
CZECH REPUBLIC

BALÓNY KUBÍČEK spol. s r.o.
Francouzská 81
602 00 Brno
CZECH REPUBLIC

For variants: BB O-Type; BB N-Type; BB Z-Type; BB GP-Type

Issue: 8; 3 April 2008
Issue: 7; 10 March 2008
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SECTION A1 GENERAL, BB Type Design

A I. General

- | | |
|----------------------------------|---|
| 1. Data Sheet No: EASA.BA.003 | Issue Date: 3 April 2008 |
| 2. Type / Variant or Model | |
| - Type: | BB |
| - Variant or Model: | O-Type: BB12, BB16, BB20, BB22, BB26
N-Type: BB22N, BB26N, BB30N, BB37N, BB45N, BB60N
Z-Type: BB22Z, BB26Z, BB30Z, BB34Z, BB37Z, BB42Z,
BB45Z, BB51Z, BB60Z, BB70Z, BB85Z
GP-Type: BB17GP, BB20GP |
| 3. Airworthiness Category: | Normal |
| 4. Type Certificate Holder: | BALÓNY KUBÍČEK spol. s r.o.
Francouzská 81
602 00 Brno |
| 5. Manufacturer: | Kubíček spol. s r.o.
Francouzská 81
602 00 Brno (S/N 1-140) |
| | BALÓNY KUBÍČEK spol. s r.o.
Francouzská 81
602 00 Brno (S/N141 and higher) |
| 6. National Certification Date: | 10 February 1993 |
| 7. CAA CZ Application Date: | 8 July 1992 |
| 8. EASA Application Date: | 25 February 2005 |
| 9. EASA Type Certification Date: | 25 February 2005 |

A II. Certification Basis

- | | |
|--|--|
| 1. Reference Date for determining the applicable requirements: | Refer to Section A2, see Tables 1, 2, 3 |
| 2. CAA CZ Type Certificate Data Sheet No: | 93-01 |
| 3. EASA Certification Basis: | CRI A-01, issue – refer to Section A2, see Tables 1, 2,3 |
| 4. Airworthiness Requirements: | Refer to Section A2, see Tables 1, 2, 3 |
| 5. Special Conditions: | None |
| 6. Reversion and Exemptions: | None |
| 7. Equivalent Safety Findings: | – FAR § 31.47 (d) endurance test for KOMET DUO burner from S/N 105
-- CRI E-01, issue 2, dated 15 February 2007:
FAR § 31.47 (d) endurance test for IGNIS burner |

A III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Refer to Section A2
2. Description: The free hot-air balloon with the natural shaped envelope of 1,200 - 8,500 m³ volume, vertical or horizontal construction with 8-32 gores. The parachute, Smart Vent or Lite Vent (previous name Smart Vent+) is used for sealing of the vent aperture. As option the envelope can be equipped with rotation vent. A single backed up, double, triple or quadruple burner is the heat source for the envelope. The basket is cane-work connected to the envelope by means of stainless-steel wires and karabiners with a screw gate. Preference of the basket and burner type shall be provided with respect to the envelope size. Stainless steel, duralumin or titanium fuel cylinders (approved models listed in the Flight Manual), equipment and instruments are fixed on the inner side of the basket.
3. Equipment:
 - Altimeter
 - A rate of climb indicator (variometer)
 - Melting link for the envelope overheating check
 - Fuel quantity gauge
 - Double fire equipment
 - Drop line
 - Fire extinguisher
 - Heat-resistant cloth
4. Envelope: Refer to Section 2A, see Table 1, 4 and 5
5. Burner: Refer to Section A2, see Table 2, 4 and 5
6. Basket: Refer to Section A2, see Table 3, 4 and 5
7. Mass: Maximum take-off weight: Refer to Section A2, see Table 1
8. Envelope temperature: In accordance with the used fabric as follows:
 - Nylon, Polyurethane coated hot air balloon fabric max. 110°C
 - Polyester, Polyurethane or Acrylic coated hot air balloon fabric max. 124°C
9. Minimum Flight Crew: 1 Pilot
10. Maximum number of persons on board: In accordance with approved Flight Manual
11. Other Limitations: The balloon is approved for VFR-Day flight

A IV. Operating and Service Instructions

1. Flight Manual for use with the hot air balloon (Document No.: B.0102)
- revision 11 or later EASA approved revision
2. Maintenance Manual for use with the hot air balloon (Document No.: B.0202)
- revision 5 or later EASA approved revision

A V. Notes

1. Applicable range of balloon parts or equipment from the other manufacturers – see the Optional Bulletin No. BB/22b-1.
2. The designation of following models: BB22; BB26; BB30; BB37; BB45; BB60 have been changed since the applicability of the Change No. 5 of this TCDS by adding capital letter 'N' to the model designation. The capital letter defines the cutting style. New designation is as follows: BB22N; BB26N; BB30N; BB37N; BB45N; BB60N.
3. The Balóny Kubiček company is not the TC holder of the Ultramagic MK-21 burner, its load frame and the C-11 basket. These parts are stated in Table 2 and 3 for the purpose of defining applicable combinations of envelopes, baskets and burners only. The related Type Certificate is EASA.BA.014.

SECTION A2: BB Type definition and certification data

Table 1: Envelopes

Model	Volume [m ³]	Gores [pcs.]	MTOM [kg]	Reference date	Certification basis	Airworthiness requirements	AFM/MM applicable revision from:	Drawing No.
BB12	1200	8 O-type	385	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	50-050002 10.3.1993
BB16	1600	8 O-type	470	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	50-050013 10.3.1993
BB17GP	1700	16 Z-type	495	4.2.2008	<u>CRI A-01</u> 4.3.2008	FAR 31, Amdt. 31-7, May 24, 1996	13/8	52-052860 1.2.2008
BB20	2000	12 O-type	630	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	50-050020 10.3.1993
BB20GP	2000	24 Z-type	730	8.7.1992	---	FAR 31, Amdt. 31-7, April 24, 1996	11/5	52-052740 21.5.2002
BB22	2200	12 O-type	730	2.2.2007	<u>CRI A-01</u> 12.3.2007	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053310 15.3.2007
BB22N	2200	24 N-type	730	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	51-050034 10.3.1993
BB22Z	2200	24 Z-type	730	19.8.2006	<u>CRI A-01</u> 6.11.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053300 12.7.2006
BB26	2600	12 O-type	840	2.2.2007	<u>CRI A-01</u> 12.3.2007	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053325 15.3.2007
BB26N	2600	24 N-type	840	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	51-050027 10.3.1993
BB26Z	2600	24 Z-type	840	19.8.2006	<u>CRI A-01</u> 6.11.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053305 12.7.2006
BB30N	3000	24 N-type	945	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	51-050041 10.3.1993
BB30Z	3000	24 Z-type	945	8.7.1992	---	FAR 31, Amdt. 31-7, April 24, 1996	11/5	52-052640 15.10.2001
BB34Z	3400	24 Z-type	1040	20.4.2006	<u>CRI A-01</u> 17.7.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/7	53-052880 18.5.2005
BB37N	3700	24 N-type	1150	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	51-050048 10.3.1993
BB37Z	3700	24 Z-type	1150	19.8.2006	<u>CRI A-01</u> 6.11.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053315 12.7.2006
BB42Z	4250	24 Z-type	1410	4.10.2002	---	FAR 31, Amdt. 31-7, April 24, 1996	11/5	52-052950 26.10.2003
BB45N	4500	24 N-type	1520	29.2.1996	---	FAR 31, Amdt. 31-5, August 18, 1990	11/5	51-050455 10.3.1993
BB45Z	4500	24 Z-type	1520	19.8.2006	<u>CRI A-01</u> 6.11.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/8	52-053320 12.7.2006
BB51Z	5100	24 Z-type	1690	20.10.2006	<u>CRI A-01</u> 14.2.2007	FAR 31, Amdt. 31-7, April 24, 1996	11/8	53-053430 24.10.2006
BB60N	6000	32 N-type	1940	11.2.1998	---	FAR 31, Amdt. 31-4, September 11, 1980	11/5	51-050643 20.4.1998
BB60Z	5950	24 Z-type	1940	18.1.2005	<u>CRI A-01</u> 4.4.2006	FAR 31, Amdt. 31-7, April 24, 1996	11/7	53-053000 1.12.2004
BB70Z	7000	24 Z-type	2300	8.3.2004	---	FAR 3, Amdt. 31-7, April 24, 1996	11/5	52-052990 24.5.2004
BB85Z	8500	28 Z-type	2820	18.1.2005	<u>CRI A-01</u> 3.3.2005	FAR 31, Amdt. 31-7, April 24, 1996	11/6	52-052850 1.2.2005

Table 2: Burners

Model	Reference date	Certification basis	Airworthiness requirements	Drawing No.	Applicable burner frames
H3	8.7.1992	---	FAR 31, Amdt. 31-4 September 11, 1980	80-050178 10.3.1993	Fixed Frame - H3 type
H3-D	8.7.1992	---	FAR 31, Amdt. 31-4 September 11, 1980	80-050306 7.3.1994	Fixed Frame - H3 - type
HB2	8.7.1992	---	FAR 31, Amdt. 31-4, September 11, 1980	80-050450 12.1.1999	Fixed Frame - H7 type
KOMET DUO up to S/N 104 including	8.7.1992	---	FAR 31, Amdt. 31-4 September 11, 1980	81-050676 16.4.1999	Fixed Frame - basic
KOMET DUO from S/N 105	8.7.1992	---	FAR 31, Amdt. 31-7 April 24, 1996	81-050676 Modification No. 99BB 22.7.2002	Fixed / Vario Frame - basic, K25P
H4	29.2.1994	---	FAR 31, Amdt. 31-4 September 11, 1980	80-050179 10.3.1993	Fixed Frame - H4 type
KOMET TRIO	4.10.2002	---	FAR 31, Amdt. 31-7 April 24, 1996	83-053010 30.9.2003	Fixed Frame - K25P, K32T, K40Y - type
IGNIS	16.11.2005	<u>CRIA-01</u> 15.2.2007	FAR 31, Amdt. 31-7, April 24, 1996	84-053115.00 84-053128.00 84-053241.00	Fixed / Vario Frame - basic, K25P (two unit) Fixed Frame - K25P, K32T, K40Y - type (three units)
ULTRAMAGIC MK-21	see A V., Note 3				Fixed Frame ULTRAMAGIC MK-21/C-11

Table 3: Baskets

Model	Reference date	Dimension	Certification basis	Airworthiness requirements	Drawing document No.	Applicable burner frames
K7	8.7.1992	0.85x0.85m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	60-050072 10.3.1993	Fixed Frame - H3 type Fixed / Vario Frame - basic
K10	8.7.1992	0.85x1.00 m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050097 10.3.1993	Fixed Frame - H3 type Fixed / Vario Frame - basic
K11	10.1.2008	0.98x1.16 m, height 1,10 m	<u>CRI A-1</u> 29.1.2008	FAR 31, Amdt. 31-7 April 24, 1996	61-054200 21.1.2008	Fixed / Vario Frame - basic
K12	8.7.1992	1.16x1.16 m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050556 10.3.1993	Fixed / Vario Frame - basic
K12A	8.7.1992	1.16x1.16 m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050586 10.3.1993	Fixed / Vario Frame - basic
K13	10.1.2008	0.98x1.25m height 1.03-1.14 m	<u>CRI A-1</u> 29.1.2008	FAR 31, Amdt. 31-7 April 24, 1996	61-054300 21.1.2008	Fixed / Vario Frame - basic
K15	8.7.1992	1.16x1.25 m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050111 10.3.1993	Fixed / Vario Frame - basic
K16	8.7.1992	1.16x1.40 m, height 1,10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050125 10.3.1993	Fixed / Vario Frame - basic
K17	10.1.2008	1.16x1.45m height 1.03-1.14 m	<u>CRI A-1</u> 29.1.2008	FAR 31, Amdt. 31-7 April 24, 1996	61-054400 21.1.2008	Fixed / Vario Frame - basic
K18	8.7.1992	1.16x1.55 m, height 1.10 m	---	FAR 31, Amdt. 31-4 September 11, 1980	61-050135 10.3.1993	Fixed / Vario Frame - basic
K22	8.7.1992	1.25x1.79 m, height 1.10 m	---	FAR 31, Amdt. 31-7 April 24, 1996	62-052680 19.7.2002	Fixed / Vario Frame - basic
K25P	8.7.1992	1.25x2.08 m, height 1.10 m P-Partition	---	FAR 31, Amdt. 31-7 April 24, 1996	62-052650 28.11.2001	Fixed Frame - K25P - type
K32T	4.10.2002	1.25x2.41m, height 1.15 m T-Partition	---	FAR 31, Amdt. 31-7 April 24, 1996	62-053050 30.7.2004	Fixed Frame - K32T - type
K40Y	29.2.1996	1.63x2.50 m, height 1.15 m Y-Partition	---	FAR 31, Amdt. 31-7 April 24, 1996	62-052090 12.4.2000	Fixed Frame - K40Y - type
ULTRAMAGIC C-11	see A V., Note 3					Fixed Frame ULTRAMAGIC MK-21/C-11

Table 4: Approved combinations of envelopes and baskets for BB models

Envelope size*	Basket													
	K7	K10**	K11	K12 K12A	K13	K15	K16	K17	K18	K22	K25P	K32T	K40Y	Ultramagic C-11
BB12	yes	yes												
BB16	yes	yes	yes											
BB17GP	yes	yes	yes	yes	yes									
BB20	yes	yes	yes	yes	yes	yes								
BB22	yes	yes	yes	yes	yes	yes								
BB26			yes	yes	yes	yes	yes	yes	yes	yes				
BB30			yes	yes	yes	yes	yes	yes	yes	yes				
BB34					yes	yes	yes	yes	yes	yes				
BB37					yes	yes	yes	yes	yes	yes	yes	yes		
BB42							yes	yes	yes	yes	yes	yes		
BB45											yes	yes	yes	
BB51											yes	yes	yes	
BB60											yes	yes	yes	
BB70											yes	yes	yes	
BB85														yes

Table 5: Approved combinations of envelopes and burners for BB models

Envelope size*	Burner									
	H3	H3-D	HB2	KOMET DUO up to 104	KOMET DUO 105+	H4	KOMET TRIO	IGNIS 2 units	IGNIS 3 units	Ultramagic MK21/C-11
BB12	yes	yes		yes						
BB16	yes	yes		yes						
BB17GP	yes	yes	yes	yes	yes			yes		
BB20	yes	yes		yes						
BB20GP	yes	yes	yes	yes	yes			yes		
BB22	yes	yes	yes	yes	yes			yes		
BB26		yes	yes	yes	yes			yes		
BB30		yes	yes	yes	yes			yes		
BB34		yes	yes	yes	yes			yes		
BB37		yes	yes	yes	yes			yes		
BB42		yes	yes	yes	yes	yes	yes	yes	yes	
BB45			yes		yes	yes	yes	yes	yes	
BB51			yes		yes	yes	yes	yes	yes	
BB60						yes	yes	yes	yes	
BB70						yes	yes		yes	
BB85										yes

* Unless otherwise specified the envelope size apply to all models (O, N, Z)

** The K10 baskets of S/N 124 and higher are to be combined with Komet Duo and Ignis – two units