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### **SECTION 1: GENERAL**

#### **I. GENERAL**

1. Data Sheet No: EASA.BA.014                      Issue Date: January 19, 2006
2. Type / Variant or Model
- (a) Type:    Series H , Series S , Series T, Series V, Series M, Series N, Series Z, Series F
- (b) Variant or Model.                              Refer to Sections 2 to 9
3. Category:    Free manned Hot Air Balloon
4. Type Certificate Holder:
- ULTRAMAGIC,S.A.  
    Aerodrom Igualada-Odena s/n  
    08711 Odena  
    ESPAÑA
5. Manufacturer
- ULTRAMAGIC S.A.  
    Aerodrom Igualada- Odena s/n  
    08711 Odena  
    ESPAÑA
- 6..National certification date:                      Various, refer to Sections 2 to 9
- 7..DGAC-E Application date:                        Various, refer to Sections 2 to 9

#### **II. CERTIFICATION BASIS**

This Type Certificate has been issued according to the requirements of la Dirección General de Aviación Civil (DGAC) following the FAR corresponding to Manned Hot Air Balloons Part 31, Amdt. 4, of 14 October 1980.

For Model M-42, M-56, M-56C, M-77C, M-90, N-355, N-425 and F-14 to F-22 the applied FAR rule corresponds to Part 31, amdt. 5 of date 18 August 1990.

For Model T-150, T-180, T-210, F-24 and F-25 the applied FAR rule corresponds to Part 31, amdt. 7 of 24 May 1996.

Exemption of FAR paragraph 31.47 on Burners for all Model except MK-21, that has been demonstrated the compliance of this paragraph following Amdt. 7 of 24 May 1996

A special test has been established for all other model burners on the Compliance Checklist.

SOLO and DUO bottom end, according to FAR 31, amdt. 7 of 24 May 1996. Special condition: EASA CS 31HB, draft of 27 February 2003.

### **III. COMMON DATA TO ALL MODELS**

**Operational Limitations**                      Those explained in the Flight Manual approved by EASA or DGAC.

**Equipment**                                      The required equipment is that one advised in the applied rule. Also will be required the additional equipment:

- Lighter or similar
- Flight Manual approved by DGAC or EASA.
- Fire extinguisher

**Maintenance**                                  Will be realized annual or 100 hours inspections, the nearest one and following the Flight Manual and Maintenance Manual corresponding to the balloons.

**Fuel**    Commercial LPG, usually propane.

**Minimum crew**                                 1 pilot.

See Individual aircraft model Technical Characteristics and Operational Limitations

## **SECTION 2 : SERIES H**

**Original DGAC Spain Type Certificate Data Sheet reference: 03**

### **2.1. General**

Model	H-77	H-65	H-56	H-42	H-31
<b>Approved</b>	<b>01.03.1985</b>	<b>01.03.1985</b>	<b>15.10.1987</b>	<b>01.10.1992</b>	<b>18.02.2000</b>
<b>Technical Description</b>					
Volume (m <sup>3</sup> )	2190	1840	1590	1200	900
Number of gores	12	12	12	12	12
Disposition	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Max Diameter (m)	17.270	16.330	15.530	13.800	12.5
Total height (m)	20.952	19.900	18.998	17.300	16.2
Max. TO Weight (Kg.)	756	638	549	416	307
Drawing number	1002	1003	1007	1035	1012
Serial numbers elected	77-01 & up.	65-01 & up	56-01 & up	42-01 & up	31-01 & up
<b>Fuel capacity, cylinder quantity</b>					
Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more	1
UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more	1
UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more	1
UM Type T-25	2 or more	2 or more	2 or more	2 or more	1
UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more	1
<b>Notes on 2.3</b>			<b>1)*</b>	<b>1)*</b>	<b>1)* &amp; 2)*</b>

#### **Burner**

See § 2.2 . Burners and Baskets for H models

#### **Envelope Temperature**

- 1) Not exceed by any concept 130 °C
- 2) Max. continuous temperature 120 °C

#### **Basket**

See § 2.2 . Burners and Baskets for H models

#### **Maximum Weight**

That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 2.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**2.2. Burners and Baskets for H models**

BURNER								
Model	MK-1	MK-2/SUPER		MK-10		MK-21		MK-21/ELEC
Units	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	OPTION
Drawing	2001	2002/2005	2003/2006	2011	2012	2021	2022	2022/0100-0000-0200
H-31		X		X		X		
H-42		X		X		X		
H-56		X	X	X	X	X	X	X
H-65	X	X	X	X	X	X	X	X
H-77	X	X	X	X	X	X	X	X

BASKET						BOTTOM ENDS	
Model	C0	C1	C2	C3	C10	SOLO	DUO
Size	0.7X0.8 m	1.0x1.2 m	1.0x1.0 m	1.1x1.3 m	1.15x1.45 m	-----	-----
Drawing	3000	3001	3002	3003	3010	5001	5002
H-31	307	----	307	----	----	300	300
H-42	373	----	416	----	----	300	400
H-56	399	----	549	----	----	-----	450
H-65	----	638	638	638	638	-----	-----
H-77	----	756	756	756	756	-----	-----

\* Compatibility and Maximum weights in Kg

### 2.3 Notes

1) \*

<b>Fuel capacity, cylinder quantity</b>	<b>H-56</b>	<b>H-42</b>	<b>H-31</b>
<b>With DUO</b>	2	2	2
<b>With SOLO</b>	---	1	1
For all approved cylinders			

2)\* Approved optional modifications (exclusively for Model H-31)

Basket CAMERON – THUNDER AND COLT with Burner incorporated, Model SKYCHARIOT according drawing SC2-002 for Basket and drawing CB8711 for the Burner

Maximum Weight 250 kg. or that one permitting the flight with the continuous temperature lower than 120 °C, whatever is less.  
See Load Chart in Flight Manual chap. 5.

Basket CAMERON – THUNDER AND COLT with Burner incorporated, Model CLOUDHOPPER MILLENIUM according drawing CB8320 for Basket and drawings n° CB8327 and CB8337 for the Burner.

Maximum Weight 250 kg. or that one permitting the flight with the continuous temperature lower than 120 °C, whatever is less.  
See Load Chart in Flight Manual chap. 5.

## **SECTION 3 : SERIES S**

**Original DGAC Spain Type Certificate Data Sheet reference: 18**

### **3.1. General**

	<b>Model</b>	<b>S-90</b>	<b>S-105</b>	<b>S-130</b>	<b>S-160</b>
<b>Approved</b>		<b>22.12.1988</b>	<b>15.10.1987</b>	<b>3.07.1989</b>	<b>16.01.1992</b>
<b>Technical Description</b>					
	Volume (m <sup>3</sup> )	2550	2950	3680	4550
	Number of gores	16	16	16	16
	Disposition	Horizontal	Horizontal	Horizontal	Horizontal
	Max Diameter (m)	18.185	19.090	20.551	22.096
	Total height (m)	21.905	22.910	24.532	26.205
	Max. TO Weight (Kg.)	878	1032	1365	1569
	Drawing number	1013	1014	1015	1016
	Serial numbers elected	90-01 & up.	105-01 & up	130-01 & up	160-01 & up
<b>Fuel capacity, cylinder quantity</b>					
	Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more
	UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more
	UM Type T-25	2 or more	2 or more	2 or more	2 or more
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more

**Burner**

See § 3.2 . Burners and Baskets for S models

**Envelope Temperature**

- 1) Not exceed by any concept 130 °C
- 2) Max. continuous temperature 120 °C

**Basket**

See § 3.2 . Burners and Baskets for S models

**Maximum Weight**

That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 3.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**3.2. Burners and Baskets for S models**

<b>BURNER</b>								
Model	MK-2/SUPER		MK-10		MK-21			MK-21/ELEC
Units	DOUBLE	TRIPLE	DOUBLE	TRIPLE	SINGLE	DOUBLE	TRIPLE	OPTION
Drawing	2002/2006	2004/2007	2012	2013	2021	2022	2023	2022/0100-0000-0200
S-90	X		X		X	X		X
S-105	X	X	X	X	X	X	X	X
S-130	X	X	X	X		X	X	X
S-160	X	X	X	X		X	X	X

<b>BASKET</b>								
Model	C1	C2	C3	C4	C5	C6	C7	C10
Size	1.0x1.2 m	1.0x1.0 m	1.1x1.3 m	1.2x1.6 m	1.4x2.2 m	1.3x1.8 m	1.4x2.0 m	1.15x1.45 m
Drawing	3001	3002	3003	3004	3005	3006	3007	3010
S-90	878	878	878	878	----	----	----	878
S-105	1032	----	1032	1032	----	----	----	1032
S-130	1235	----	1365	1365	1365	1321	1365	1205
S-160	----	----	----	1569	1569	1333	1569	1227

\* Compatibility and Maximum weights in Kg

## **SECTION 4 : SERIES T**

**Original DGAC Spain Type Certificate Data Sheet reference: 247**

### **4.1. General**

	<b>Model</b>	<b>T-180</b>	<b>T-210</b>	<b>T-150</b>
<b>Approved</b>		<b>14.02.2002</b>	<b>15.10.2002</b>	<b>15.01.2003</b>
<b>Technical Description</b>				
	Volume (m <sup>3</sup> )	5100	6000	4245
	Number of gores	20	20	20
	Disposition	Horizontal	Horizontal	Horizontal
	Max Diameter (m)	22.200	24.300	20.900
	Total height (m)	27.300	28.600	25.000
	Max. TO Weight (Kg.)	1754	2070	1465
	Drawing number	1045	1046	1059
	Serial numbers elected	180-29 & up.	210-20 & up	150-01 & up
<b>Fuel capacity, cylinder quantity</b>				
	Worthington 4100-U4-27	2 or more	2 or more	2 or more
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more
	UM Type M-30 or M-30D	2 or more	2 or more	2 or more
	UM Type T-25	2 or more	2 or more	2 or more
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more

**Burner** See § 4.2 . Burners and Baskets for T models

**Envelope Temperature** 1) Not exceed by any concept 130 °C  
2) Max. continuous temperature 120 °C

**Basket** See § 4.2 . Burners and Baskets for T models

**Maximum Weight** That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 4.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**4.2. Burners and Baskets for T models**

<b>BURNER</b>										
Model	MK-2 / SUPER			MK-10			MK-21			MK-21 / ELEC
Units	DOUBLE	TRIPLE	QUAD	DOUBLE	TRIPLE	QUAD	DOUBLE	TRIPLE	QUAD	OPTION
Drawing	2002/2006	2004/2007	2008	2012	2013	2014	2022	2023	2024	2022/0100-0000-0200
T-150				X	X		X	X		X
T-180		X	X		X	X	X	X	X	X
T-210		X	X		X	X	X	X	X	X

<b>BASKET</b>									
Model	C3	C4	C5	C6	C7	C8	C9	C10	C11
Size	1.1x1.3 m	1.2x1.6 m	1.4x2.2 m	1.3x1.8 m	1.4x2.0 m	1.5x2.6 m	1.6x3.0 m	1.15x1.45 m	1.7x3.5 m
Drawing	3003	3004	3005	3006	3007	3008	3009	3010	3011
T-150	1465	1465	1465	1355	1465	----	----	1256	----
T-180	----	----	1754	1372	1611	1754	1754	----	----
T-210	----	----	1930	----	1626	2070	2070	----	2070

\* Compatibility and Maximum weights in Kg

## **SECTION 5 : SERIES V**

**Original DGAC Spain Type Certificate Data Sheet reference: 03 (models V-65, V-77)**

**Original DGAC Spain Type Certificate Data Sheet reference: 04 (models V-56, V-90, V-105)**

Model	V-77	V-65	V-105	V-56	V-90
<b>Approved</b>	<b>01.03.1985</b>	<b>01.03.1985</b>	<b>25.06.1989</b>	<b>15.09.1989</b>	<b>15.10.1989</b>
<b>Technical Description</b>					
Volume (m <sup>3</sup> )	2190	1840	2950	1650	2550
Number of gores	24/32	24	24	24	24
Disposition	Vertical	Vertical	Vertical	Vertical	Vertical
Max Diameter (m)	16.979/16.640	16.010	18.752	15.220	17.863
Total height (m)	20.923/20.992	19.930	22.930	19.018	21.923
Max. TO Weight (Kg.)	756	638	1032	549	878
Drawing number	1001/1017	1004	1019	1008	1018
Serial numbers elected	77-04 & up.	65-01 & up	105-10 & up	56-01 & up	90-01 & up
<b>Fuel capacity, cylinder quantity</b>					
Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more	2 or more
UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more	2 or more
UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more	2 or more
UM Type T-25	2 or more	2 or more	2 or more	2 or more	2 or more
UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more	2 or more
<b>Notes on 5.3</b>				<b>1)*</b>	

Burner See § 5.2 . Burners and Baskets for V models

Envelope Temperature 1) Not exceed by any concept 130 °C  
2) Max. continuous temperature 120 °C

Basket See § 5.2 . Burners and Baskets for V models

Maximum Weight That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 5.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**5.2. Burners and Baskets for V models**

<b>BURNER</b>											
Model	MK-1	MK-2 / SUPER			MK-10			MK-21			MK-21 / ELEC
Units	DOUBLE	SINGLE	DOUBLE	TRIPLE	SINGLE	DOUBLE	TRIPLE	SINGLE	DOUBLE	TRIPLE	OPTIO N
Drawing	2001	2002/2005	2003/2006	2004/2007	2011	2012	2013	2021	2022	2023	2022/0100- 0000-0200
V-56		X	X		X	X		X	X		X
V-65	X	X	X		X	X		X	X		X
V-77	X	X	X		X	X		X	X		X
V-90		X				X		X	X		X
V-105			X	X		X	X	X	X	X	X

<b>BASKET</b>							<b>BOTTOM END</b>	
Model	C0	C1	C2	C3	C4	C10	SOLO	DUO
Size	0.7x0.8 m	1.0x1.2 m	1.0x1.0 m	1.1x1.3 m	1.2x1.6 m	1.15x1.45 m	----	-----
Drawing	3000	3001	3002	3003	3004	3010	5001	5002
V-56	402	----	549	----	----	----	----	450
V-65	----	638	638	638	----	638	----	----
V-77	----	756	756	756	----	756	----	----
V-90	----	878	878	878	878	878	----	----
V-105	----	1032	----	1032	1032	1032	----	----

\* Compatibility and Maximum weights in Kg

**5.3 Notes**

1) \*

<b>Fuel capacity, cylinder quantity</b>	<b>V-56</b>
<b>With DUO</b>	2
<b>With SOLO</b>	---
For all approved cylinders	

## **SECTION 6 : SERIES M**

**Original DGAC Spain Type Certificate Data Sheet reference: 03**

### **6.1. General**

	<b>Model</b>	<b>M-160</b>	<b>M-65</b>	<b>M-77</b>	<b>M-105</b>	<b>M-130</b>
<b>Approved</b>		<b>15.10.1987</b>	<b>25.03.1988</b>	<b>25.03.1988</b>	<b>10.06.1988</b>	<b>30.11.1994</b>
<b>Technical Description</b>						
	Volume (m <sup>3</sup> )	4550	1840	2200	2950	3680
	Number of gores	24	24	24	24	24
	Disposition	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
	Max Diameter (m)	21.610	16.021	16.930	18.780	20.186
	Total height (m)	26.281	19.840	20.982	23.072	24.553
	Max. TO Weight (Kg.)	1569	638	756	1032	1365
	Drawing number	1011	1020	1009	1010	1021
	Serial numbers elected	160-01 & up.	65-19 & up	77-17 & up	105-03 & up	130-05 & up
<b>Fuel capacity, cylinder quantity</b>						
	Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type T-25	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more	2 or more

	<b>Model</b>	<b>M-145</b>	<b>M-90</b>	<b>M-65C</b>	<b>M-56</b>	<b>M-120</b>
<b>Approved</b>		<b>21.02.1995</b>	<b>4.03.1997</b>	<b>4.03.1997</b>	<b>6.02.1998</b>	<b>23.02.1999</b>
<b>Technical Description</b>						
	Volume (m <sup>3</sup> )	4105	2550	1840	1590	3400
	Number of gores	24	24	24	24	24
	Disposition	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
	Max Diameter (m)	20.400	17.400	14.700	14.900	19.200
	Total height (m)	24.700	21.600	21.300	18.800	23.400
	Max. TO Weight (Kg.)	1436	880	635	550	1173
	Drawing number	1036	1040	1054	1034	1055
	Serial numbers elected	145-01 & up	90-15 & up.	65-63 & up	56-14 & up	120-01 & up
<b>Fuel capacity, cylinder quantity</b>						
	Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type T-25	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more	2 or more
<b>Notes on 6.3</b>					<b>1)*</b>	

	<b>Model</b>	<b>M-56C</b>	<b>M-77C</b>	<b>M-42</b>		
<b>Approved</b>		<b>8.07.1999</b>	<b>30.04.2001</b>	<b>22.04.2003</b>		
<b>Technical Description</b>						
	Volume (m <sup>3</sup> )	1590	2200	1200		
	Number of gores	24	24	24		
	Disposition	Horizontal	Horizontal	Horizontal		
	Max Diameter (m)	13.800	15.500	13.600		
	Total height (m)	17.300	24.000	17.500		
	Max. TO Weight (Kg.)	550	756	414		
	Drawing number	1056	1057	1038/010		
	Serial numbers elected	56-15 & up	77-190 & up	42-08 & up.		
<b>Fuel capacity, cylinder quantity</b>						
	Worthington 4100-U4-27	2 or more	2 or more	2 or more		
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more		

	UM Type M-30 or M-30D	2 or more	2 or more	2 or more		
	UM Type T-25	2 or more	2 or more	2 or more		
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more		
<b>Notes on 6.3</b>				<b>1)*</b>		

Burner See § 6.2 . Burners and Baskets for M models

Envelope Temperature 1) Not exceed by any concept 130 °C  
 2) Max. continuous temperature 120 °C

Basket See § 6.2 . Burners and Baskets for M models

Maximum Weight That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 6.2, whatever is less.  
 See Load Chart in Flight Manual chap. 5.

**6.2. Burners and Baskets for M models**

<b>BURNER</b>										
Model	MK-2 / SUPER			MK-10			MK-21			MK-21 / ELEC
Units	SINGLE	DOUBLE	TRIPLE	SINGLE	DOUBLE	TRIPLE	SINGLE	DOUBLE	TRIPLE	OPTIO N
Drawing	2002/2005	2003/2006	2004/2007	2011	2012	2013	2021	2022	2023	2022/0100- 0000-0200
M-42				X			X			
M-56	X	X		X	X		X	X		X
M-56C	X	X		X	X		X	X		X
M-65	X	X		X	X		X	X		X
M-65C	X	X		X	X		X	X		X
M-77	X	X		X	X		X	X		X
M-77C	X	X		X	X		X	X		X
M-90		X			X		X	X		
M-105		X	X		X	X	X	X	X	X
M-120		X	X		X	X		X	X	X
M-130		X	X		X	X		X	X	X
M-145		X	X		X	X		X	X	X
M-160		X	X		X	X		X	X	X

<b>BASKET</b>										<b>BOTTOM END</b>	
Model	C0	C1	C2	C3	C4	C5	C6	C7	C10	SOLO	DUO
Size	0.7x0.8 m	1.0x1.2 m	1.0x1.0 m	1.1x1.3 m	1.2x1.6 m	1.4x2.2 m	1.3x1.8 m	1.4x2.0 m	1.15x1.45 m	----	----
Drawing	3000	3001	3002	3003	3004	3005	3006	3007	3010	5001	5002
M-42	382	----	414	----	----	----	----	----	----	300	400
M-56	399	----	550	----	----	----	----	----	----	----	450
M-56C	399	----	550	----	----	----	----	----	----	----	----
M-65	----	638	638	638	----	----	----	----	638	----	----
M-65C	----	638	638	638	----	----	----	----	638	----	----
M-77	----	756	756	756	----	----	----	----	756	----	----
M-77C	----	756	756	756	----	----	----	----	756	----	----
M-90	----	878	878	878	878	----	----	----	878	----	----
M-105	----	1032	----	1032	1032	----	----	----	1032	----	----
M-120	----	1173	----	1173	1173	1173	1173	1173	1173	----	----
M-130	----	1235	----	1365	1365	1365	1321	1365	1205	----	----
M-145	----	----	----	1436	1436	1436	1333	1311	1227	----	----
M-160	----	----	----	----	1569	1569	1346	1569	1240	----	----

\* Compatibility and Maximum weights in Kg

**6.3. Notes**

1) \*

<b>Fuel capacity, cylinder quantity</b>	<b>M-56</b>	<b>M-42</b>
<b>With DUO</b>	2	2
<b>With SOLO</b>	---	1
For all approved cylinders		

## **SECTION 7 : SERIES N**

**Original DGAC Spain Type Certificate Data Sheet reference: 61**

### **7.1. General**

<b>Model</b>	<b>N-180</b>	<b>N-210</b>	<b>N-250</b>	<b>N-355</b>	<b>N-300</b>	<b>N-425</b>
<b>Approved</b>	<b>26.06.1991</b>	<b>31.10.1991</b>	<b>22.06.1992</b>	<b>10.06.1997</b>	<b>30.04.1998</b>	<b>30.04.2001</b>
<b>Technical Description</b>						
Volume (m <sup>3</sup> )	5100	6000	7000	10000	8500	12000
Number of gores	28	28	28	28	28	28
Disposition	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Max Diameter (m)	22,474	23.793	24.938	27.500	26.624	29.500
Total height (m)	27.332	28.935	30.328	33.300	32.380	35.480
Max. TO Weight (Kg.)	1754	2064	2408	3450	2924	4140
Drawing number	1031	1032	1033	1053	1034	1058
Serial numbers elected	180-01 & up	210-01 & up	250-01 & up	355-01 & up	300-01 & up	425-01 & up
<b>Fuel capacity, cylinder quantity</b>						
Worthington 4100-U4-27	2 or more	2 or more	3 or more	4 or more	3 or more	4 or more
UM Type M-20 or M-20D	2 or more	2 or more	3 or more	4 or more	3 or more	4 or more
UM Type M-30 or M-30D	2 or more	2 or more	3 or more	4 or more	3 or more	4 or more
UM Type T-25	2 or more	2 or more	3 or more	4 or more	3 or more	4 or more
UM Type M-40 or M-40D	2 or more	2 or more	3 or more	4 or more	3 or more	4 or more

Burner See § 7.2 . Burners and Baskets for N models

Envelope Temperature 1) Not exceed by any concept 130 °C  
2) Max. continuous temperature 120 °C

Basket See § 7.2 . Burners and Baskets for N models

Maximum Weight That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 7.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**7.2. Burners and Baskets for N models**

<b>BURNER</b>								
Model	MK-2 / SUPER		MK-10		MK-21			MK-21 / ELEC
Units	TRIPLE	QUAD	TRIPLE	QUAD	DOUBLE	TRIPLE	QUAD	OPTIO N
Drawing	2004/2007	2005/2008	2013	2014	2022	2023	2024	2022/0100- 0000-0200
N-180	X	X	X	X	X	X	X	X
N-210	X	X	X	X	X	X	X	X
N-250		X		X		X	X	X
N-300		X		X		X	X	X
N-355		X		X			X	X
N-425		X		X			X	X

<b>BASKET</b>							
Model	C5	C6	C7	C8	C9	C11	C12
Size	1.4x2.2 m	1.3x1.8 m	1.4x2.0 m	1.5x2.6 m	1.6x3.0 m	1.76x3.5 m	1.7x4.5 m
Drawing	3005	3006	3007	3008	3009	3011	3012
N-180	1745	1368	1607	1754	1754	----	----
N-210	1936	----	1632	2064	2064	2064	----
N-250	1959	----	----	2199	2408	2408	----
N-300	1986	----	----	2226	2680	2924	2924
N-355	2010	----	----	2250	2704	3216	3450
N-425	2010	----	----	2250	2814	3332	3712
* Compatibility and Maximum weights in Kg							

## **SECTION 8 : SERIES Z**

**Original DGAC Spain Type Certificate Data Sheet reference: 147**

### **8.1. General**

	<b>Model</b>	<b>Z-90</b>
<b>Approved</b>		<b>23.01.1996</b>
<b>Technical Description</b>		
	Volume (m <sup>3</sup> )	2550
	Number of gores	16
	Disposition	Diagonal
	Max Diameter (m)	18.241
	Total height (m)	22.742
	Max. TO Weight (Kg.)	894
	Drawing number	1025
	Serial numbers elected	90-14 & up.
<b>Fuel capacity, cylinder quantity</b>		
	Worthington 4100-U4-27	2 or more
	UM Type M-20 or M-20D	2 or more
	UM Type M-30 or M-30D	2 or more
	UM Type T-25	2 or more
	UM Type M-40 or M-40D	2 or more

Burner See § 8.2 . Burners and Baskets for Z models

Envelope Temperature 1) Not exceed by any concept 130 °C  
 2) Max. continuous temperature 120 °C

Basket See § 8.2 . Burners and Baskets for Z models

Maximum Weight That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 8.2, whatever is less.  
 See Load Chart in Flight Manual chap. 5.

**8.2. Burners and Baskets for Z models**

<b>BURNER</b>					
Model	MK-2 / SUPER	MK-10	MK-21		MK-21 / ELEC
Units	DOUBLE	DOUBLE	SINGLE	DOUBLE	OPTIO N
Drawing	2003/2006	2012	2021	2022	2022/0100- 0000-0200
Z-90	X	X	X	X	X

<b>BASKET</b>					
Model	C1	C2	C3	C4	C10
Size	1.0x1.2 m	1.0x1.0 m	1.1x1.3 m	1.2x1.6 m	1.15x1.45 m
Drawing	3001	3002	3003	3004	3010
Z-90	878	878	878	878	878
* Compatibility and Maximum weights in Kg					



	<b>Model</b>	<b>F17-OVNI</b>	<b>F18-PIZZA</b>	<b>F19-CAVA</b>	<b>F20-BEETLE</b>	<b>F21-CEPSA</b>	<b>F22-TORRE</b>
<b>Approved</b>		<b>5.03.1997</b>	<b>26.06.1997</b>	<b>13.07.1998</b>	<b>4.09.1998</b>	<b>24.12.1998</b>	<b>31.10.2000</b>
<b>Technical Description</b>							
	Volume (m <sup>3</sup> )	3000	4450	2500	3000	2840	2900
	Number of gores	24	24	28	24	24	24
	Maximum Width (m)	----	----	----	31.0	----	----
	Max Diameter (m)	27.5	28.0	11.7	----	<b>13.8</b>	<b>19.0</b>
	Total height (m)	16.7	23.7	41.2	21.1	27.9	27.6
	Max. TO Weight (Kg.)	570	1000	570	740	810	570
	Drawing number	F17-figs.	F18-figs.	F19-figs.	F20-figs.	F21-figs.	F22-figs.
	Serial numbers elected	F17-01 & up	F18-01 & up	F19-01 & up	F20-01 & up	F21-01 & up	F22-01 & up
<b>Fuel capacity, cylinder quantity</b>							
	Worthington 4100-U4-27	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-20 or M-20D	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-30 or M-30D	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type T-25	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more
	UM Type M-40 or M-40D	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more

	<b>Model</b>	<b>F24 FLYINGMAN</b>	<b>F25-FUTBOL</b>			
<b>Approved</b>		<b>5.03.2003</b>	<b>23.02.2004</b>			
<b>Technical Description</b>						
	Volume (m <sup>3</sup> )	3580	3000			
	Number of gores	20	24			
	Maximum Width (m)	14.4	----			
	Max Diameter (m)	----	18.1			
	Total height (m)	32.4	21.0			
	Max. TO Weight (Kg.)	950	980			
	Drawing number	F24-figs.	F25-figs.			
	Serial numbers elected	F24-01 & up	F25-01 & up			
<b>Fuel capacity, cylinder quantity</b>						
	Worthington 4100-U4-27	2 or more	2 or more			
	UM Type M-20 or M-20D	2 or more	2 or more			
	UM Type M-30 or M-30D	2 or more	2 or more			
	UM Type T-25	2 or more	2 or more			
	UM Type M-40 or M-40D	2 or more	2 or more			

Burner See § 9.2 . Burners and Baskets for F models

Envelope Temperature 1) Not exceed by any concept 130 °C  
2) Max. continuous temperature 120 °C

Basket See § 9.2 . Burners and Baskets for F models

Maximum Weight That one permitting the flight with the continuous temperature lower than 120 °C, or according to the basket/equipment used based on § 9.2, whatever is less.  
See Load Chart in Flight Manual chap. 5.

**9.2. Burners and Baskets for F models**

<b>BURNER</b>				
Model	MK-1	MK-2 / SUPER	MK-10	MK-21
Units	DOUBLE	DOUBLE	DOUBLE	DOUBLE
Drawing	2001	2003/2006	2012	2022
F-6 JAMBON		X	X	X
F-4 TXORI		X	X	X
F-7 BOTE		X	X	X
F-8 LA CARTUJA		X	X	X
F-9 BOTELLA DE AGUA		X	X	X
F- 11 MONTGOLFIERE		X	X	X
F-10 TXORI		X	X	X
F-12 PAQUETE		X	X	X
F-13 FAIRY		X	X	X
F-14 JARRA DE CERVEZA			X	X
F-15 BOTE-HUCHA			X	X
F-16 CAJA 2			X	X
F-17 OVNI			X	X
F-18 PIZZA			X	X
F-19 CAVA			X	X
F-20 BEETLE			X	X
F-21 CEPESA			X	X
F-22 TORRE			X	X
F-24 FLYINGMAN			X	X
F-25 FUTBOL			X	X

<b>BASKET</b>						
Model	C1	C3	C10	C4	C2	C6
Size	1.0x1.2 m	1.1x1.3 m	1.15x1.45 m	1.60x1.20	1.0x1.0	1.80x1.30
Drawing	3001	3003	3010	3004	3002	3006
F-6 JAMBON	875					
F-4 TXORI	770					
F-7 BOTE	910					
F-8 LA CARTUJA	1032	1050		1050		
F-9 BOTELLA DE AGUA	770					
F- 11 MONTGOLFIERE	1035					
F-10 TXORI	645					
F-12 PAQUETE	670	670				
F-13 FAIRY	1032	1032				
F-14 JARRA DE CERVEZA	850	850	850	850	850	
F-15 BOTE-HUCHA	850	850	850	850	850	
F-16 CAJA 2	630					
F-17 OVNI	570					
F-18 PIZZA						1000
F-19 CAVA	570					
F-20 BEETLE	740					
F-21 CEPESA		810				
F-22 TORRE	570					
F-24 FLYINGMAN	950					
F-25 FUTBOL	980	980	980			

\* Compatibility and Maximum weights in Kg

## **SECTION 10 . NOTES**

Note 1.-               The system FDS of deflation can be installed optionally according to drawings 1031/72, 1031/75 and 1031/76 in all Model.

Note 2.-               Data Sheets corresponding to original TCs have been modified to include :

- Optional Electric Burner MK-21
- Special Shape envelopes F-25
- Models SOLO and DUO, chair type gondola
- New format of Data Sheet

END