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# TYPE CERTIFICATE DATA SHEET

No. EASA.BA.108

**for**  
FK-STU

**Type Certificate Holder**  
Ballonbau Wörner GmbH

Flughafenstraße 20  
86169 Augsburg  
Germany

For Models: FK-STU/280



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## SECTION 1: FK-STU/280

### I. General

- |   |  |
|---|--|
| 1. Type/ Model                                |  |
| 1.1 Type                                      | FK-STU   |
| 1.2 Model                                     | FK-STU/280   |
| 2. Airworthiness Category                     | Standard   |
| 3. Type Certificate Holder                    | Ballonbau Wörner GmbH<br>Flughafenstraße 20<br>86169 Augsburg<br>Germany   |
| 4. Manufacturer                               | Ballonbau Wörner GmbH<br>Flughafenstraße 20<br>86169 Augsburg<br>Germany   |
| 5. Type Certification Application Date to LBA | 22 October 1992  |
| 6. State of Design Authority                  | EASA   |
| 7. Type Certificate Date by LBA               | 19 May 1994  |
| 8. Type Certificate n°                        | EASA: EASA.BA.108<br>(LBA: 8043/BA, until Issue 2, 6 June 2000)  |
| 9. EASA Type Certification Date               | 28 September 2003, in accordance with CR (EU)<br>1702/2003, Article 2, 3., (a), (i), 2 <sup>nd</sup> bullet, 1 <sup>st</sup> indented<br>bullet. |

### II. Certification Basis

- |   |  |
|---|--|
| 1. Reference Date for determining the applicable requirements | 23 December 1993   |
| 2. Certification Basis  | Defined by LBA letter I431-8043/93,<br>dated 23 December 1993  |
| 3. Airworthiness Requirements                                 | Airworthiness Requirements for Manned Tethered Gas<br>Balloons (LFFB Luftarbeit), Issue December 1993  |
| 4. Special Conditions   | none   |
| 5. Deviations   | none   |
| 6. Equivalent Safety Findings                                 | none   |
| 7. Exemption (grandfathered LuftGerPV)                        | §39(b)<br>Explanation: For reasons of material compatibility the<br>cable joint between the envelope and basket consists of a<br>zinked steel cable. Appropriate additional inspections<br>have been inserted in the Maintenance Manual. |

### III. Technical Characteristics and Operational Limitations

- |                           |   |
|---------------------------|---|
| 1. Type Design Definition | Drawing list for tethered gas balloon type FK-STU/280,<br>Issue November 1992, LBA-approved 12 November 1993<br>as well as subsequent approved supplements and<br>changes<br><br>Mobile manned tethered gas balloon |
|                           | 2.1 Envelope<br>Spherical netless envelope of about 280 m <sup>3</sup> total<br>volume consisting of 18 vertical envelope gores,  |



coated fabric; load transfer by tape arch system and lines; bungee tensioned expansion gore; one automatic over pressure valve and one over pressure opening, or, two automatic over pressure valves HBV-1.

## 2.2 Basket

Conventional braided basket with fall stop system Blocstop BSO 500 (Greifzug).

Basket size	Dimensions [cm]	max. permissible number of occupants
	80 x 65 x 110	1

### 3. Equipment

- 1 sufficiently long and sustainable rope to haul ballast sacks inboard
- 1 safety belt for the occupant
- 1 wind speed anemometer
- 1 during night operation suitable lighting source to illuminate the envelope

### 4. Ground facilities with

Hydraulic cable winch as ascent/descent device, or, alternatively electric cable winch with cable force delimiter and driven cable drum; mounted on a mobile crawler as counter weight and additional ballast; tether cable with swivel.

Winch type: - Rotzler HZ 020  
- Tirak X502P

Maximum unspooled tether cable length:  
in day/night time: 80 m (262 ft)

### 5. Occupants

Maximum: 1  
Minimum: 0

### 6. Maximum Mass

325 kg

### 7. Life-limited Parts

see Maintenance Manual

### 8. Lifting Gas

Hydrogen (H<sub>2</sub>), Helium (He)

## IV. Operating and Service Instructions

### 1. Operating Instructions

Operation Manual for the tethered gas balloon FK-STU/280, issue 1, LBA approved 19 May 1994, and subsequent approved supplements and changes

### 2. Service Instructions

Maintenance Manual for the tethered gas balloon FK-STU/280, issue 1, September 1999, as well as subsequent supplements and changes

## V. Notes

1. Manufacturing is confined to industrial production.
2. When applying the Technical Note TM 8043-1 the Operation Manual FK-STU/280, Issue 2, May 2000, and subsequent approved supplements and changes, becomes mandatory.
3. Certified for aerial work.

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## SECTION: ADMINISTRATIVE

### I. Acronyms and Abbreviations

LBA            Luftfahrt-Bundesamt  
                 German Federal Office for Civil Aviation

LFFB Luftarbeit  
                 'Lufttüchtigkeitsforderungen für  
                 bemannte gefesselte Gasballone'  
                 exclusively for air work below 300 ft AGL

### II. Type Certificate Holder Record

II.1 Type Certificate Holder	Period
Ballonbau Wörner GmbH Zirbelstrasse 57c 86154 Augsburg, Germany	From 19 May 1994
Ballonbau Wörner GmbH Flughafenstraße 20 86169 Augsburg, Germany	since 01.09.2021

### III. Change Record

Issue	Date	Changes	TC issue
Issue 1	2 Jun 2005	Initial issue of EASA TCDS	2 June 2005
Issue 2	24 Oct 2023	SECTION 1: - I.3, I.4.: change of TC Holder and Manufacturer address - I.9: legal reference to EASA Type Certification Date added - II.7: reference to LuftGerPV added - III.4: feet value corrected SECTION: ADMINISTRATIVE - II.1: TC Holder record updated All pages: EASA TCDS format updated	---

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