

# KUBICEK BALLOONS

## FLYING CATHEDRAL

Press release

This massive Cathedral is the largest and most complicated project so far undertaken by KUBICEK BALLOONS. The project was conceived by two artists Jan Kaeser and Martin Zimmermann and the balloon will be used as a part of celebrations that will mark the 200th anniversary of St. Gallen Kanton. The balloon will be flown throughout Switzerland to promote the Kanton, the city and of course this baroque Cathedral that is a part of the Benedictine abbey. The Cathedral has just been the subject of a major restoration project and is listed as a world historic site by UNESCO.

### Technical description:

|   |                                      |
|---|--------------------------------------|
| Dimensions of the Cathedral:              | height 80 m, width 58m, length 103 m |
| Dimensions of the Flying Cathedral:       | height 31 m, width 15 m, length 26 m |
| Volume of the balloon:                    | 3.100 m <sup>3</sup>                 |
| Weight of the envelope:                   | 250 kg                               |
| Fabric used in the balloons construction: | 2,9 km                               |
| Total painted area:                       | 1.600 m <sup>2</sup>                 |
| Length of the seams:                      | approx. 4,3 km                       |
| Length of thread:                         | approx . 25 km                       |

### Flight characteristic of the Flying Cathedral:

|                    |   |
|--------------------|---|
| Crew:              | pilot + 1-2 passengers  |
| Flights endurance: | with suply of 100 kg of propane 1,5 to 2 hours  |
| Length of flights: | the balloon will only be flown in good weather conditions when the winds are relatively light so the balloon would normally fly for 15-20 km  |
| Flight altitude:   | In theory 5 km but in practise it will normally be flown at or below 1 km so that it can easily be identified as the Cathedral of St. Gallen and not confused with St. Pauls or any other earth-bound construction... |

### Rate of climb and descent

+/- 2 m/sec.

### Additional information:

The complex shape of the Cathedral has been designed around a conventional hot air balloon envelope with catenary curtains and extensions duplicating the shape of the building. The envelope is constructed from polyester fabric with the weight of the structure being taken by suspension cables. Beneath the envelope hang the basket and fuel system that powers the balloon.

The complex artwork on the envelope was painted on to individual panels before they were sewn together to form this enormous balloon. Thirteen kilograms of paint was used to reproduce the design of the original Cathedral and eight different fabric colours were specially dyed to replicate the various tones of the building. Thirty people worked to construct the envelope, sales people, technical designers, cutters, seamstresses, graphic artists, test pilot and of course, the certification team. The balloon has fully tested and leaves KUBICEK BALLOONS for Switzerland with Export Certificate of Airworthiness from the Czech Civil Aviation Authority.

The order took 7 months to complete including 3 months of drawings, designing and stress calculation. Ground inflations and test flying took a further month. This meant, that the sewing teams had to work on a shift system to make sure, that balloon was completed on time. A lot of hard work for a large team of people but it was all worthwhile when we saw the Cathedral fly past the Petrov Cathedral in Brno, the town that is home to KUBICEK BALLOONS.

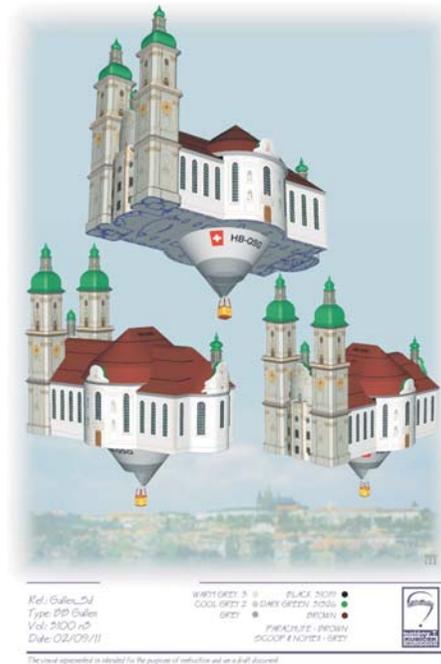
If you have questions on ballooning or this special project, than please visit our web site [www.kubicekballoons.cz](http://www.kubicekballoons.cz) or call us direct ton +420 603 807 055.





**St. Gallen**

1/ Baroque Cathedral built by Celestin Gugger von Staudach in years 1755-1766, St. Gallen, Switzerland.



Kel.: Gallen\_Sd  
Type: BB Gallen  
Vol.: 2100 m<sup>3</sup>  
Date: 02/2001/11

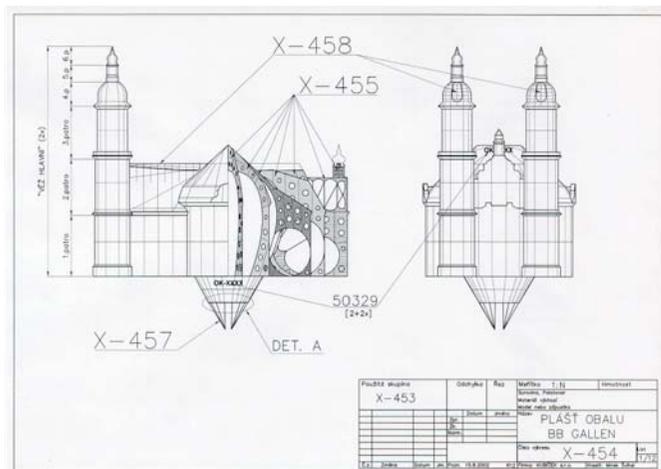
WHITE GREY 3 ● BLACK 2004 ●  
DARK GREY 2 ● BROWN GREEN 2004 ●  
GREY ● BROWN ●  
PINKISH - BROWN ●  
BROWN & BROWN - GREY ●

The visual represented is intended for the purpose of reflection and not a final document.

2/ The Design Visual from which the design team worked to replicate the Cathedral. Some compromises had to be made to ensure that the balloon would be easy to fly but the essential features of the Cathedral are unchanged.



3/ Flying Cathedral built by KUBICEK BALLOONS in 2002, Brno, Czech Republic



4/ One of the original engineering drawings from which the balloon was constructed. Every aircraft, even if it looks like a church, has to be fully documented and calculations made to ensure that it is completely airworthy. The internal curtains that hold the shape to the balloon can be seen in the drawing on the left. The holes in the curtains allow the hot air to flow through the envelope and also reduce its weight.

5/ 2,5 meter high detail from above the side door of the Flying Cathedral.

