



Museum in Hohenems

# Stoffels Säge-Mühle

**A museum unique throughout the world – with a culturalhistorical  
documentation of 2000 years mill technology.**

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## The Open-Air Museum

The open-air museum was built from 1981 to 1987, thanks to the untiring efforts of Alois Amann, who had succeeded his ancestors in the saw milling and mill grinding trades. Preserved for posterity, a historic waterwheel-driven sawmill and flour-mill are

preserved in their original sizes and romantic surroundings. A showcase with diagrams

offers historical information about the trades quarter of the town of Hohenems. In addition, the exhibit shows a collection of more than 30 tools and implements relating to the sawmill and flour-mill industries, as well as the running wheels of Pelton-, Kaplan- and Francis-turbines used in modern hydroelectric power plants.





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## The Mill Museum

Following an initiative by Alois Amann's son, Ing. Bernd Amann, plans were conceived to expand the open-air museum into the former sawmill in 1988. These plans were finally carried out and finished by father and son in 1999. 35 machines dating from 1880, from 1920 to 1955 and ranging up to modern computer-controlled mills from 1990, help demonstrate the multi-faceted developments in mill engineering and technology. Diagrams show cereal grain, various cereal bugs and weeds, the four main procedures of flour production, and the structure of a mill dating from 1950, with a grinding efficiency of 24 tons per day. In addition, there is a picture gallery and models of mills dating from 1990, which had milling capacities of 300 tons and 880 tons per day.





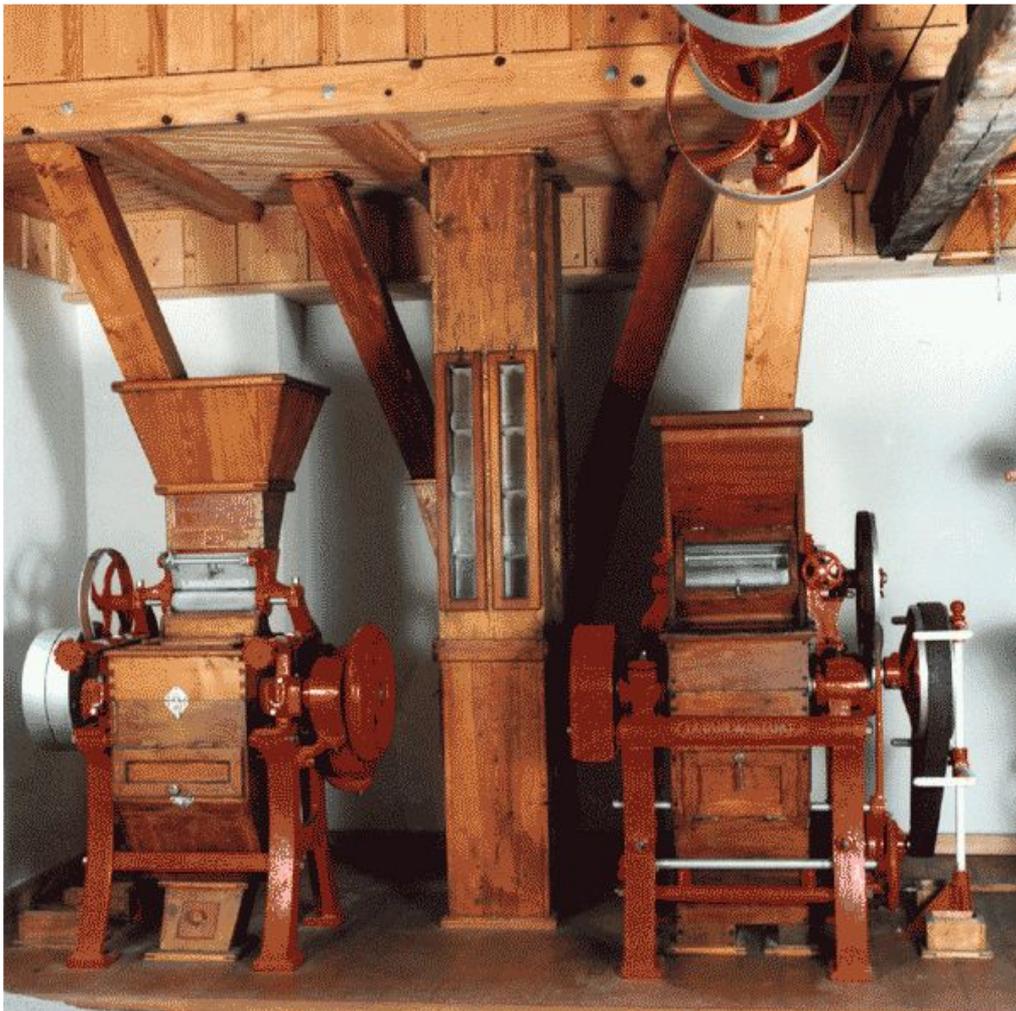
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## The Historic Trades District

Mentioned for the first time in 1549 in connection with inherited estates, the Count of Hohenems' mill monopoly supplied the population of Hohenems with the necessary daily rations of flour. Sawmills have been in use in this area since 1626.

At the beginning of the 19th century, when the hereditary line of Counts of Ems died out, the different patents for trades and crafts were sold to private persons. Due to rising industrialization, water power was used more intensively now. In the course of time there were altogether four flour-mills, eight sawmills, as well as tow-, hemp- and tanstamps driven by the waters of the Salzbach stream. Later three weaving mills, a spinning mill, a dye-work and a printing office were established on the stream.





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## Chronicle of Stoffels Saw-Mill

Two manorial sawmills were originally located here at Sägerstraße 11. In the years 1803 and 1812 they were sold to private persons. There is proven evidence that the sawmill presented here was in continuous use from that time, and that a flour-mill was in operation from 1878. Since 1835, the double-waterwheel plant has been in the possession of the "Stoffels" branch of the Kick-Amann family. In 1956, the flour-mill ceased operations, as did the sawmill in 1979. More than 22,500 volunteer working hours, over a period of eighteen years, were spent by a father-and-son team in reconstructing the original mill, as well as in setting up and expanding this museum of crafts and industry. Covering an area of 600 square meters, this mill museum documents the 2,000 year cultural heritage of milling technology. In the opinion of experts the mill museum is unique in Europe and throughout the world. In the last twenty-five years, interested people from 126 different states on five continents have visited this one-of-a-kind mill museum.





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## The Cultural History of Mills

Modern researchers believe that man has cultivated cereals for at least 10,000 years. The oldest petrified bread yet discovered dates from about 5,500 years ago. The Egyptians prepared their flour with pestles and sieves. According to a Greek myth, the Greek Mylas was the inventor of the millstone.

The Romans later fully developed and refined mill engineering and grinding workmanship. Besides small handmills and querns, they used cone mills driven by horses, oxen or slaves.

For the first time, in the year 25 B.C., the building contractor, architect and engineer Vitruvius wrote about a waterwheel-driven mill. This mill had about one horsepower and a mere ten per cent efficiency. Now, for the first time, no muscle power was needed to drive this mill, because the potential energy stored in the water was changed into kinetic energy. Thus the waterwheel-driven mill is usually deemed the oldest machine in human history. Using this novel drive technology it was later possible to develop more sophisticated milling machines.

In one of his poems, the 4th century Roman poet Ausonius described water-wheeldriven stone sawmills on the River Rur in Germany.

Although the Roman Empire was already declining in the 5th century A.D., mills had conquered the world. At this time we also find the origins of shipmills powered by river waters.



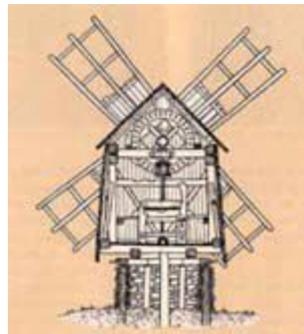
Shipmill



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In the 7th and 8th centuries windmills were utilized for the first time. In the 9th century mills began to be used to produce malt for beer-mash, and to pulverize iron ore. In the 13th century mills were used for paper manufacture and for the fulling of wool.



Windmill

In the 14th century turning lathes were driven by mills for the first time. In the 15th century tube-boring mills, wire-drawing mills, rolling mills and impeller breakers for sheet metal production were developed.

By the 16th century in Europe there were at least forty different manufacturing processes using water power.

In the 16th century hoisting devices, chain driven bucket elevators and pit ventilators for mines were built for the first time.

There were then other subsequent mill inventions, including bark tanning-, chaff-, chair-, glass-grinding-, pumping-, scythe-, silk-, spice-, spinning-, stocking weaving-, stone burr-, threshing- and twine-mills.

In 1769 the Englishman James Watt registered his first steam engine patent, and in 1782 he succeeded in constructing a twenty horsepower industrial steam engine. The end of the era of water- and windmills was near. With the discovery of electricity in 1880 an age of more efficient energy use was ushered in, and water- and windmills were now no longer actively used. This technological progress did, however, mean that more powerful and efficient milling machines could be developed, and small and mid-size merchant mills began to appear. Today the tendency is towards large-scale milling in a few centralized mills.



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## **Opening hours – Contact**

### **Opening hours**

25th April to 31st October,  
daily 9 a.m. to 6 p.m.  
Film showings for groups:  
"From Grain to Bread".

### **Guided tours**

In German and English.  
Evening tours by  
arrangement only.

### **Admission**

Adults Euro 2,20  
Students Euro 1,50  
Children Euro 1,10

### **Museum Proprietors**

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