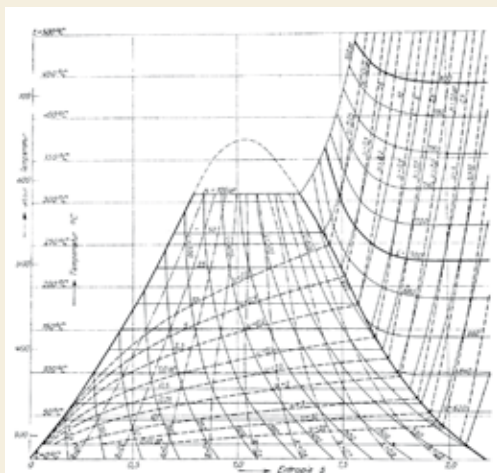


- Born in 1859 in Liptovský Mikuláš.
- From 1876 to 1884, he studied at a number of technical universities in Europe.
- In 1892 he was accepted as an acknowledged expert at the Technical University in Zürich, where he worked until 1929.
- In 1903 he published his fundamental work on steam and gas turbines, which appeared in many editions.
- In 1940 he received the prestigious James Watt International Gold Medal.
- Died in 1942 in Zürich.
- In 1989 his remains were moved to his place of birth in Slovakia.



Application of the so-called Mollier's entropy diagram for steam

Swiss Minister takes the James Watt International Medal, awarded to Aurel Stodola



Coin data

Denomination: 10 euro

Material: Ag 900/1000
Cu 100/1000

Weight: 18 g

Diameter: 34 mm

Edge inscription:

KONŠTRUKTÉR - VYNÁLEZCA - PEDAGÓG

(constructor, inventor, pedagogue)

Number of pieces minted: limited quantity of BU and proof coins of maximum 30,000 pieces

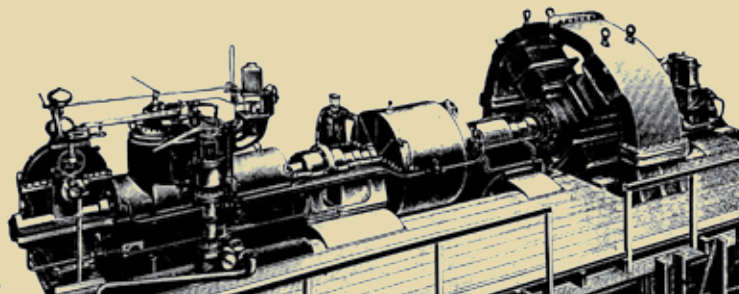
Designer: Miroslav Ronai

Engraver: Dalibor Schmidt

Producer: Kremnica Mint

The obverse side of the coin depicts a turbo generator of that time, above which is the national emblem of the Slovak Republic. The name of the state SLOVENSKO is placed slanted in the lower left part of the coin, with the year 2009 beneath it. The nominal value of 10 EURO is shown beneath the turbo generator; the number 10 is placed horizontally, and the word EURO in a slanted line is to its right. The mintmark MK of the Kremnica Mint, set between two dies, is on the left edge of the coin.

The reverse side shows a portrait of Aurel Stodola in the coin center. To the right of the portrait is a pair of compasses of that time, used in technical drawings, with its arms spread open. The name and surname AUREL STODOLA are placed parallel to the compasses' arms. On the lower left side of the coin, the years of Stodola's birth and death, 1859 and 1942, appear in two slanted lines. The stylized initials of the coin designer Miroslav Ronai MR are placed near the bottom edge of the coin.



**150th Anniversary
of the Birth of
Aurel Stodola**
Silver Collector Coin

Aurel Stodola, mathematician, physicist, engineer, inventor and university professor is to this day a world-renown personality in the area of automatic regulation theory and scientific foundations for designing and building of steam and combustion turbines. He is considered the father of the steam turbine.

He was born on 10 May 1859 in Liptovský Mikuláš. In 1876 he began to study at the Technical University in Budapest and from 1877 he studied mechanical engineering in Zürich. He worked for two years at the engineering plant of the Hungarian State Railways in Budapest and later he studied at the Technical University in Charlottenburg, Berlin. He completed his studies in 1884 at the Sorbonne in Paris.

He started to work as an engineer at Strojirenská společnost (engineering firm) Ruston and Co. in Prague, where he made calculations on steam machines, water turbines and compressors. He became a renowned expert and gained the reputation for being an excellent builder of machines as well as a mathematician and physicist. From 1892 he worked at the Swiss Polytechnical Institute in Zürich and obtained the title of Professor after a year. He remained at the school for nearly 40 years, until his retirement in 1929. As an outstanding and popular pedagogue and genial scientist, he attracted many students to the university and educated hundreds of professional engineers.

Aurel Stodola was engaged in building and perfecting of turbines for many years. In 1903 he published in German his fundamental work "Steam Turbines and Prospect of Combustion Engines" (Die Dampfturbinen und die Aussichten der Wärmekraftmaschinen). The book appeared in five editions, and these were not merely reprints; he continuously supplemented and improved it: the first edition had 220 pages and 120 illustrations, and the



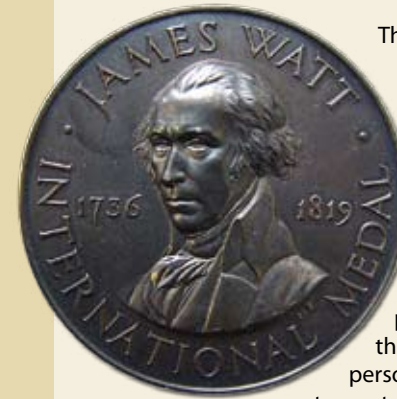
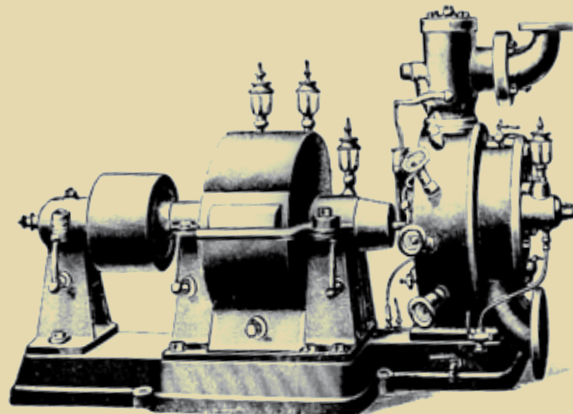
sixth included 1,157 pages and 1,141 illustrations. Starting with the second edition, chapters about combustion engines were added, representing a completely new area. The book was translated into a number of languages and became a classic work in the field of technical literature.

He worked on the calculation of streaming steam in the distribution channels of steam turbines and on measuring jet losses. His discovery of the collision force of steam and jet cooling effects was pioneering, and he calculated the necessary robustness of turbine wheels and the vibration of turbine blades. He applied the so-called Mollier's entropy diagram for steam, which he had been expanding with new figures for higher pressures and temperatures.

He also worked on theory of automatic regulation of machines. He was engaged in the construction of mechanical hand and held patents on a number of types of artificial limbs. He brilliantly foresaw the age of automation and, as a philosopher, contemplated the consequences of technical development for civilization.

The work of Aurel Stodola was recognized by many world scientific societies and universities, and Stodola was awarded the highest prizes and scientific titles. In 1908 he was awarded the highest honour for German engineers, when he received the Grashof Commemorative Medal, and in 1940 he received the James Watt International Gold Medal. His work is still alive and science is constantly returning to it.

Aurel Stodola died on 25 December 1942 in Zürich. He never renounced his nationality, always pointed to his Slovak origins, and stressed that his feelings for his nation never diminished. His remains were moved to his place of birth in 1989.



Thirteen letters from his mutual correspondence with Albert Einstein were found in his legacy; he highly valued his creative activities, his desire for knowledge and his exceptionally clear thinking: "If Stodola had been born during the Renaissance, he would have become a great painter or sculptor, because the greatest stimulus of his personality is imagination and need to create. Such personalities had for the past 100 years been more inclined towards technology. In it the creativity of our age is reflected as well as the sense of beauty. Here he finds a richer opportunity, far greater than the layman could ever imagine."

The James Watt International Medal, the highest award for an engineer of that time

Certificate to the Grashof Commemorative Medal

Drawing of a mechanical hand

