

Undamped Hydraulic Energy Generators HEG

Energy conversion with oscillating
fluid columns based on ram pump
technology without water losses
Mini-HEG with 20 kW

20 kW device EGM-YPHP20SP-B

- V. V. Marukhin also developed a small 20 kW device the size of a Coca-Cola can.
- The license was sold in February, 2016 to a non-civilian group in Europe.
- This very expensive device is not commercially available.



Presentation of the components in Moscow on 18 July, 2016



Presentation of a 20 kW HEG in idle mode

- A year after our meeting in Moscow, where Dr. V. V. Marukhin showed us a 20 kW energy generator in disassembled condition, he sent us a video of the device in operation.
- The video recorded on 25 May, 2017 shows two wires connecting the ends of the generator tube to a small black device that converts the high voltage from the device to 220–221 V AC as pictured.
- Recording time: 3:05 minutes.



<https://yadi.sk/i/oYSUmlBm3M8vqc>

Presentation of a 20 kW HEG in idle mode

- The measuring device used was a UNIT-T M830 B (Amazon).
- The switch was set in the video to 750 V range / alternating current.



The displayed voltage fluctuated in the video between 219 and 221 V. The video was without sound.



<https://yadi.sk/i/oYSUmlBm3M8vqc>

Presentation of a 20 kW HEG with load

<https://yadi.sk/i/jlSEo51I3MEzb2>



Calculation of power and energy

- Duration of the film: 16:04 minutes
- Volume of the can (estimated): 0.1 liters
- Volume of the "voltage inverter": 0.11 liters
- Estimated lamp load: $3 * 100 \text{ W} = 300 \text{ W}$
- **In 16 min. an energy of $300 \text{ W} * 16 \text{ min} / (60 \text{ min/h}) = 80 \text{ Wh}$ is consumed. For comparison:**
- If somebody had the intent to deceive, they could use lithium batteries with 800 Wh/liter, so that a volume of 0.1 liter would store 80 Wh.
- Therefore, **a presentation of this kind** (with lamps as load) **is not convincing** to critics.
- However, the following demo(s) showing the heating of water is (are) much more convincing.

Video received from Dr. Marukhin on 21 April, 2018

<https://yadi.sk/i/rOkbDDmw3UbKU2>

7:57 min.



You can hear very well the crackling of the high voltage discharge, and the water boiling in the kettle.

Video received from Dr. Marukhin on April 21, 2018

- **A licensee** who purchased a license for a module with a maximum power of 20 kW a few years ago made no secret about it and **sent a video showing another test of this device.**
- **In this demo**, the presence of a high voltage at the device becomes obvious from the electric arc visible between the white and red wires.
- **The load in this demo was a conventional electric water boiler** (kettle) in which about **2 liters of water** each were heated **to just before boiling point** in about **400 seconds.**
- **The energy drawn** from the module **was approximately 1.79 kW** (see calculation on the following slide).
- It should be noted that each time after the water was heated, the kettle was emptied and refilled.

Calculation of the power of the water kettle

- The energy to heat 2 kg water from 20 C to 100 C is calculated to be

$$E = 2 \text{ kg} * 4,1897 \text{ kJ}/(\text{kg} * \text{C}) * 80 \text{ C} = 670,35 \text{ kJ} = 670.35 \text{ kW} \cdot \text{s} = \mathbf{186 \text{ Wh}}$$

- The water seems to boil after 468 s (about 7.5 min.).

Therefore, the needed power is

$$P = 670.35 \text{ kW} \cdot \text{s} / 468 \text{ s} = 1.43 \text{ kW}.$$

- But the efficiency of a water heater normally is around 80%.
- Therefore, **we have to invest an electrical power of 1.43 kW/0.8 = 1.79 kW**



Calculation of the total converted energy

- The volume of the module is around $2.5 \text{ cm} * 2.5 \text{ cm} * 3.14 * 12 \text{ cm} = 236 \text{ cm}^3$ or 0.263 liter.
- If we used a simple battery with a power density of 800 Wh/liter, a maximum of $0.263 \text{ liter} * 800 \text{ Wh} = \mathbf{210 \text{ Wh}}$ could be stored in this volume.
- But practically, we would need some space inside (20%, perhaps) for the high voltage converter.
- **Therefore, with the battery volume reduced to 80%, we could store only about $0.8 * 210 \text{ Wh} = 168 \text{ Wh}$.**
- **But effectively, 186 Wh were converted in the 7.5 minutes.**



Length of the arc: 2 cm corresponding to 33 kV

The video was an excerpt of a 24-hour video

- These 7:57 of **video** were only a **small fraction** of a 24-hour long video...
- ...the amount of data for which is 42 GB.
- **The operator** (licensee) **poured room temperature water** into the kettle **a total of 210 times** and **poured the heated water away each time.**
- **Therefore**, a total of $210 * 2$ liters of water equaling **3 bathtubs** were heated to the boiling point (**100 C !**).
- **Total decoupled energy** from the HEG = $210 * 2 \text{ kg} * 75 \text{ degrees} * 4.187 \text{ kJ} = \mathbf{36.6 \text{ kWh (!)}}$



HEG devices of different sizes



AR-500 (EGM-H-P-500-20)

Dimensions:

Height: 300 mm, Diameter: 140 mm

Weight: 20 kg

Voltage at output: 6 kV

Output power: 500 kW

Max. Angle of inclination: +/- 60 degrees

AR-1000 (EGM-H-P-1000-21)

Dimensions:

Height: 420 mm, Diameter: 150 mm

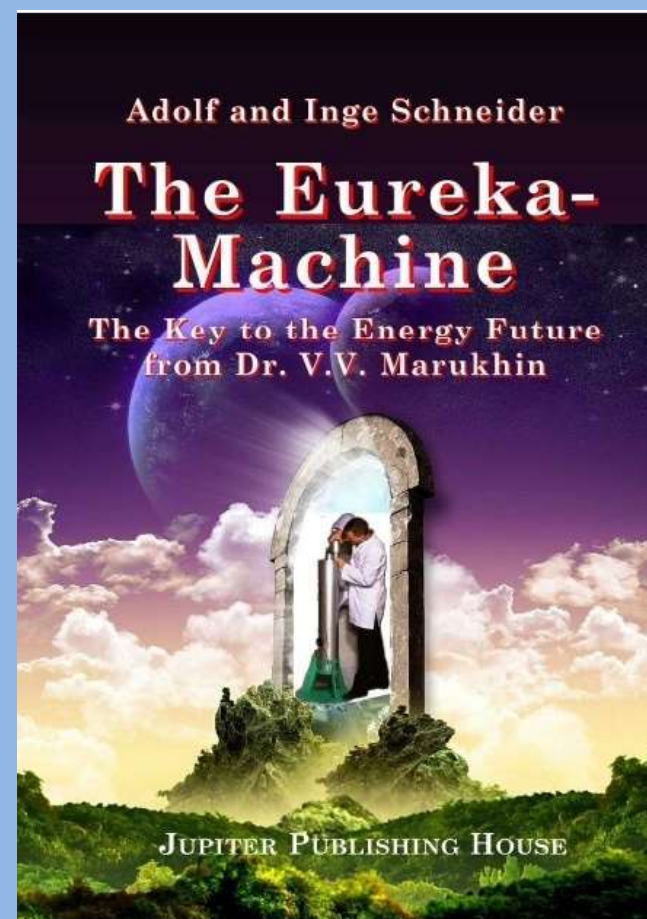
Weight: 40 kg

Voltage at output: 12 kV

Output power: 1000 kW

Max. Angle of inclination: +/- 60 degrees

Books on Hydraulic Energy Generator



E-Book version: <https://www.amazon.com/dp/B07DQRXLPC>

Newest scientific paper by Dr. V. V. Marukhin in SCIENCE AND WORLD,
International Scientific Journal, № 8 (84), 2020, Vol. I

http://scienceph.ru/f/science_and_world_no_8_84_august_vol_i.pdf pp 33-70

Novel Energies

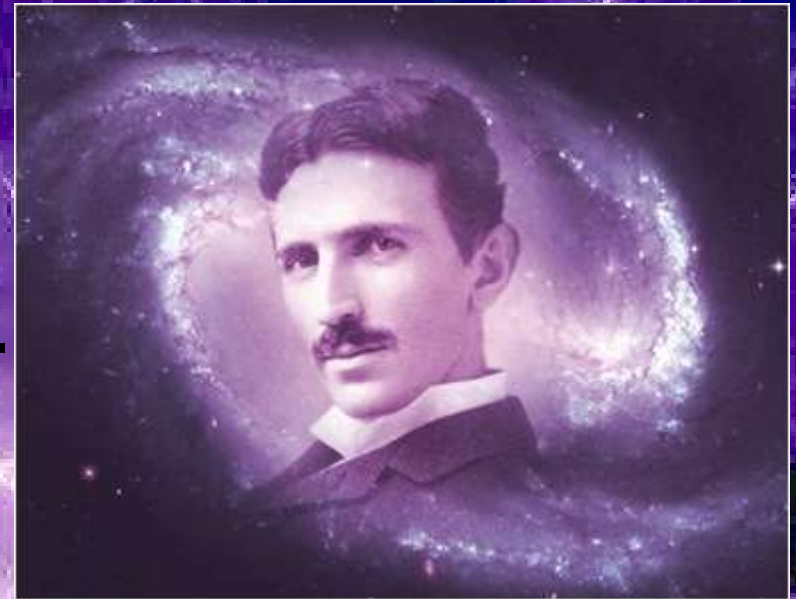
“This **new power** for the driving of the world’s machinery **will be derived from the** energy which operates the universe, the **cosmic energy**, whose central source for the earth is the sun and which is even **present in unlimited quantities.**”

New York American, 1 Nov., 1933

“I have harnessed the cosmic rays and caused them to operate a motive device.”

www.borderlands.de/Links/NovelEnergyTechnologies.pdf

www.borderlands.de/Links/WCEC031116.pdf



Nikola Tesla (1856-1943)

***The Brooklyn Eagle,
July 10th, 1932,***