Thermopot

Open pot technology for more energy saving and safer cooking from CeMaS group

Let us introduce a pot to You, which

- needs **less energy for cooking** than classic pots
- keeps cooked meal or drink **warm longer**
- is **safe to touch during cooking**, because its outer surface stays warm only and You will not burn Yourself
    - this applies also to a temperature of induction cooker itself, which warms up from the pot
- is designed for electromagnetic induction cookers
    - other variants for electric resistance or gas cookers or various external heat sources like fire can be prepared in future
- can be used for casual cooking at atmospheric pressure or as pressurized pot with relief valve
- can be used for keeping meals or drinks cold
- was designed to be durable and practical
- should be affordable for people to accompany them during preparation of healthy meals and drinks
- was developed by CeMaS for ecological cooking and energy savings to take care of healthier nature

Operation Principles

The pot is composed of **double shell with thermal insulation gap in between**. Both pot lid and body has this construction. This thermocontainer prevents heat leaking from inside out and the opposite way.

Heat can be conducted into inner space with multiple means:

- With **magnetic induction**, which acts on ferromagnetic material at the bottom inner shell side (inside insulation space) which is getting hot. External shell may not disturb the induction process and must be composed of magnetically permeable material. This case is detailed in document magneticka_indukce from March 2018.
- With **direct heat transfer** from external source (fire, glass-ceramic cooker, electric resistance spiral etc.) using thermal bridge connecting bottom parts of external and internal shells. This bridge must be only temporal during necessary heating: it is activated by external thermal source and closed with its switching off.

The applied principle allows described pot design, but can also be used for other forms like utility water heaters.

Prototype

We have realized first test thermopot prototype and conducted its measurements during cooking on induction cooker. A comparrison was made with classic pot for induction cookers during boiling the same amount of water at the same ambient temperature.

The following results were obtained:

- Water was brought to the boiling point in both cases in almost the same time. The prototype

was not fine-tuned yet so there were greater heat losses than expected with enhanced future model with more heat savings.
- Water was kept boiling. Our prototype required around 20% less electric energy than the classic pot.

The prototype shows energetic savings and greater effectivity is expected after its development to production.

Details are available in document Comparisson of Thermopot with Induction Pot [1)] from June 2018.

Cooperation

The pot needs to be prepared for production, distribution and sale. If You can participate in any way, contact us at address thermopot@ce-ma-s.net and help us realize it so that it becomes available for people soon.

Licence

For Non-commercial Purposes

We support open development:

For Commercial Purposes

If You are interested in thermopot development, production, sale or distribution, contact us to arrange details.

In addition we have these conditions:

1. Your activities involving thermopot will follow humane and moral rules
2. Final price affordability will be granted to as many people as possible
3. Mutually agreed profit share will be provided to support future development, research and growth of CeMaS company
    1. We suggest 2% from sale price of product using this technology

History

- 2019
  - March
    - Open publishing of thermopot technology details on these pages
- 2018
  - June
    - Prototype presentation to Remoska s.r.o. company under mutual original information sharing agreement [2) 3)]
  - Thermopot technology offer to Slovak and Czech Republic companies
  - Basic thermopot introduction on these pages
  - Prototype tests
- 2017
  - Design and graphics preparation of thermopot for magnetic induction
  - Prototype development
  - Basic idea growth

Conclusion

Users, by buying the pot You also support development of other clean technologies of CeMaS company.

We are looking forward to Your reactions and good cooperation.

CeMaS team

[1] [2]
,
in Czech
[3]
CeMaS company has been transformed to CeMaS group