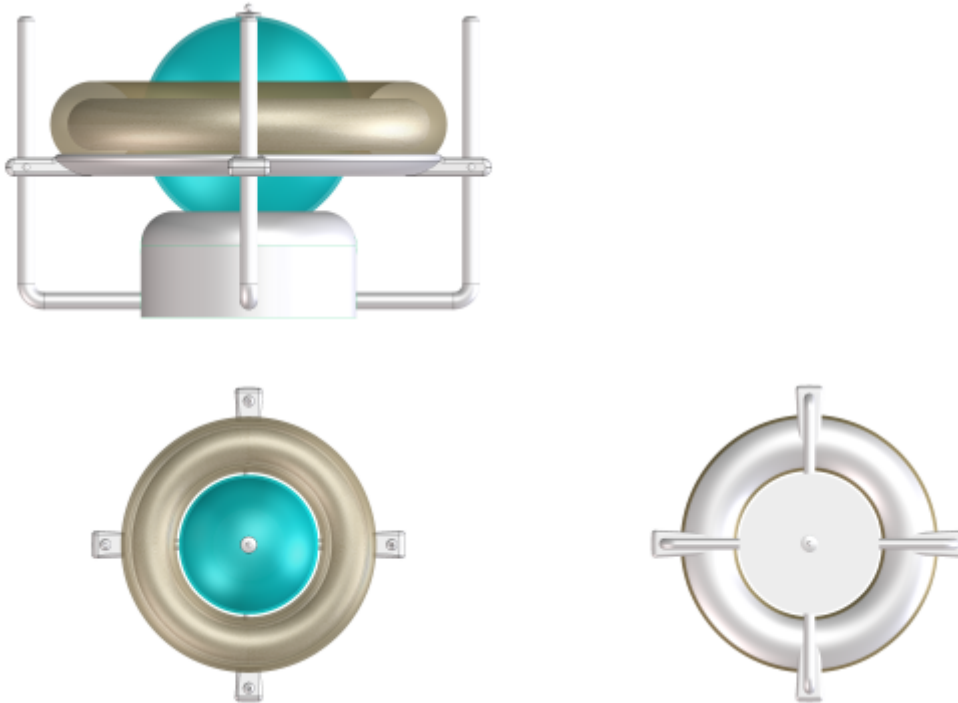


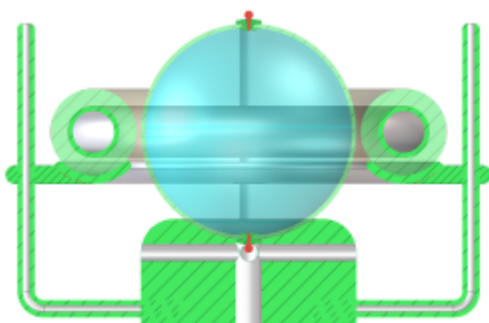
# Design PIR 1

Design of the prototype [plasmatic implosion reactor \(PIR\) 1](#)

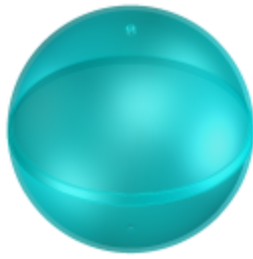


- First version of the prototype doesn't have to have so many sensors. At first the vortex control must be done right
- Later more sensors can come
- Usage of more rotors
  - two in both poles (like a galaxy) rotating opposite direction
- Find a way how to use implosive vortex flow for motor drive
  - If we will achieve self-sustaining vortex, then it will have wide use
  - It would ve nice to start the flow manually from outside

## Parts



## Chamber



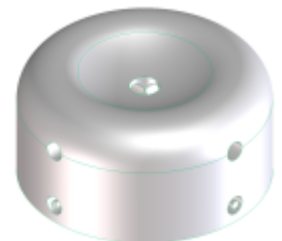
- spherical (later it is possible to try egg-shaped for single motor system)
- inner diameter 12 cm



- two filling openings in poles of the chamber against each other able to close the opening
  - by cork
  - by conductor for monitoring or excitation of liquids
- possible solution: [plastic sphere two-piece](#)

## Chamber stand


Used for



- storing chamber
- anchor base of the coil
- storing control unit
- chamber lighting
- bringing contacts out of the chamber

## Rotor - liquid



Magnetic fluid.

- ferrofluid
  - iron nanoparticles
    - [Nanopowder Nanofer Star](#) 
- ormus/gans fluid

# Stator - coil

Rotor drive. toroidal coil out of the chamber.



- double coil pair(bifilar) windings
  - one windings can be used for exciting and second for monitoring and connection to oscilloscope
  - both windings can be used for exciting and monitoring at the same time
  - try concurrent and counterflow current int the windings
  - copper stranded wire
    - [SCY 2x0,75mm2 - transparent pair - S8307](#) 
  - way of winding
    - along small perimetr of toroid
      - we can try [supertoroidal coil](#) with more order spirals 
    - along big perimetr of toroid
      - we can try more order spirals as it is at [subatomic particles ANU](#) even tracks

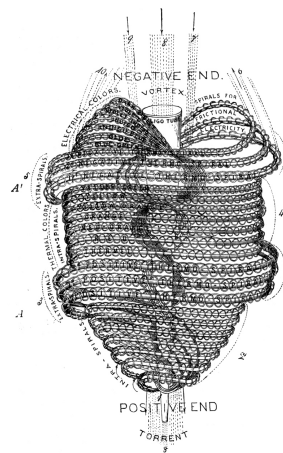



Fig 133. Piece of Atomic Spiral with 1st 2nd and 3rd Spirilla.

of plants/stars/galaxies...

- exciting
  - signal generator
    - (arbitrary wave generator) controled by PC with the voltage waveform
      - pulse
    - PWM (pulse width modulation)
  - [Power Pulse Modulator - PWM-OCXi v2](#) 
    - [příručka](#)
    - DC up to 1,5 MHz
    - duty cycle 0% - 100%
    - current up to 9 A
    - voltage up to 500 V
  - frequency up to several MHz
  - suitable amplifier, if needed

- possible coil core: [styrofoam wreath](#)

## Coil pedestal



- Enables vertical positioning horizontally centered coil



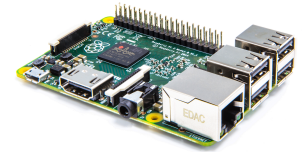
- at once. Enables holding and positioning of several coils

## Senzors

- Magnetic field near the chamber
  - ideally several magnetic sensors
    - atleast 3 in n-gon in equator
    - 2 in every pole
- temperature
  - inside at 3 different places
    - 2 sensors near poles
    - 1 sensor in equator parallel
  - around the chamber
    - 1 sensor in equator
      - ideally in line with center of the chamber and inner equator sensor
- current
  - conectors for monitoring voltage between them
    - several parallel thin metal strips on inner wall of the chamber
    - in poles of axis of rotation of vortex
    - ideally connector in center of the chamber
      - Must not brake vortex flow
      - wire of pole

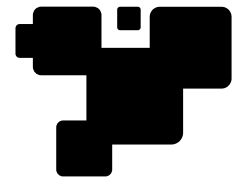
## Control unit

## Raspberry Pi 2:



- [Manufacturer](#)
- [Seller](#)
- [Dimensions 85 x 56 x 17 mm](#)
- [Windows 10 IoT Core](#)

96 Boards:



- [Web](#)
- [Specifications](#)
- [Models](#)

Stand of the chamber is designed to hold both types of the units.

## 3D model

[PC 3D model of the reactor](#) made in [PTC Creo Direct Modeling Express](#), in which it is possible to view and edit it.

I exported each part for 3D printing(STL format):

- Chamber
  - [Upper part](#)
  - [Lower part](#)
  - Bushing - 2 sets for upper and lower part of the chamber
    - [Tenon](#)
    - [Pojistka](#)
    - [Cork](#)
    - [Cork for contact](#)
- Chamber stand
  - [Upper part](#)
  - [Lower part](#)
- Coil - 4 parts forming toroid
  - [1 part](#)
- Coil stand - 4 parts forming circle
  - [1 part](#)
- Coil stand holder - 4 parts plugged in coil stand
  - [1 part](#)

## **Materials and production of the prototype**

- Chamber and rotor print on 3D printer from plastics at first
- Chamber will be ideally transparent
- silicon seal, if needed