

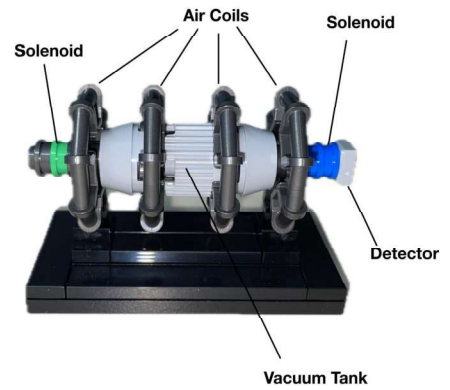


The KATRIN Main Spectrometer

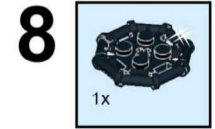
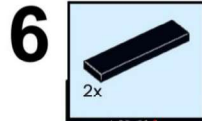
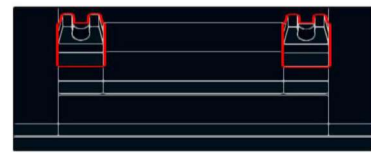
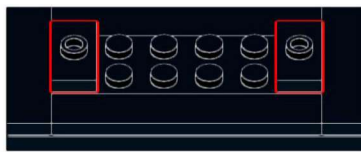
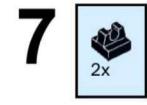
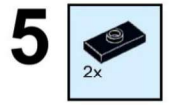
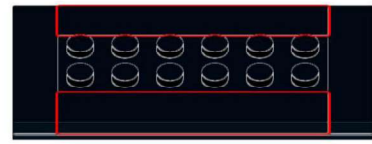
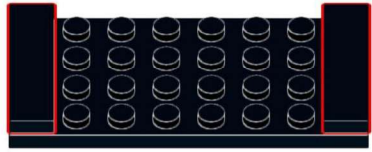
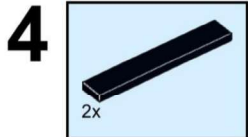
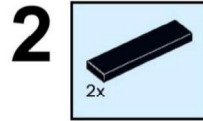
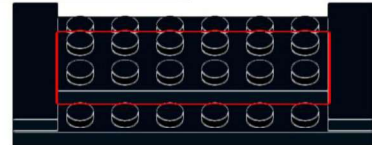
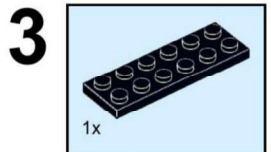
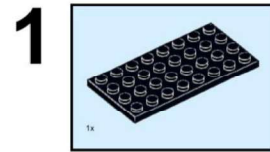
Model design by Markus Schulz-Ritz

The **K**arlsruhe **T**ritium **N**eutrino experiment is located at the Campus North of the Karlsruhe Institute of Technology. The KATRIN-Collaboration consists of over 150 members across 7 countries. The purpose of KATRIN is to measure the mass of the anti-electron neutrino.

The main spectrometer uses the MAC-E Filter principle to measure electrons at the endpoint of the β -spectrum of tritium arriving at the **Detector**. In order to generate the magnetic field in the spectrometer, **Solenoids** and **Air Coils** are used. As the electron pass through the spectrometer any collisions with atoms need to be avoided, therefore the trajectories are inside a huge **Vacuum Tank**, with a diameter of 10m and a pressure below 10^{-10} mbar.



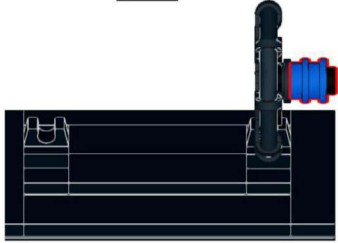
More information at <https://www.katrin.kit.edu>



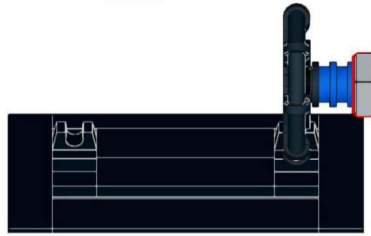
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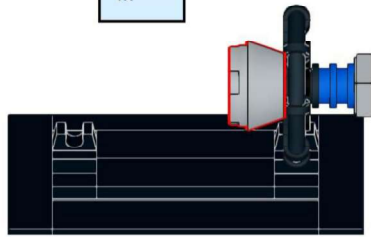
10 2x



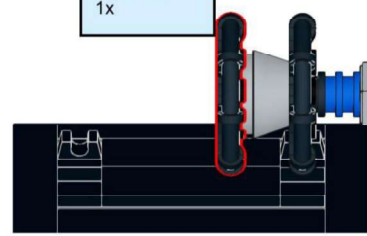
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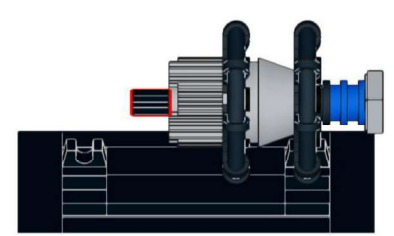
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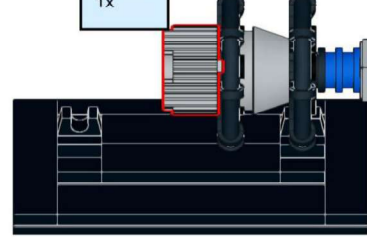
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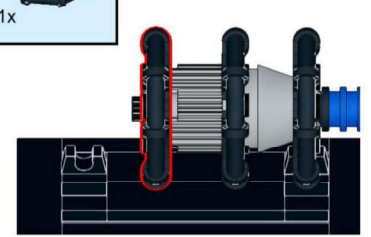
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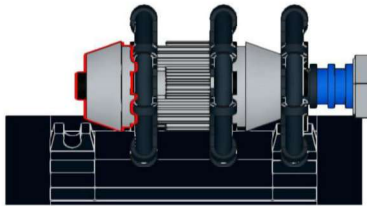
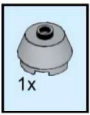
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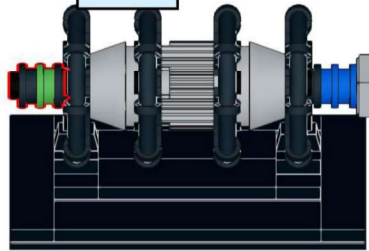
16 1x



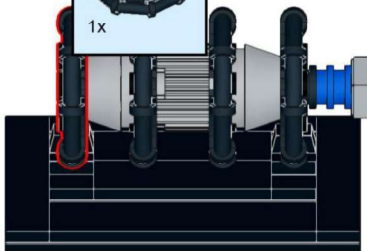
17 1x



19 1x 2x



18 1x



2x
2555
Black



1x
3704
Black



2x
3794b
Black



4x
2431
Black



2x
6636
Black



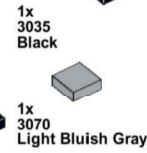
1x
3795
Black



1x
3035
Black



1x
3070
Light Bluish Gray



2x
98100
Light Bluish Gray



9x
92947
Light Bluish Gray



1x
4073
Bright Green



2x
4073
Blue



3x
4073
Metallic Black



4x
75937
Metallic Black

