### Assignment of tasks

The „NEUMOT“—steam engine is a new kind of machine which is supposed to be used in a power heat coupling. An alternator should generate electrical energy with the maximum power output of 35 kW. The prototype of the NEUMOT was investigated for the 3rd time in course of this dissertation. The problem of breaking pistons was solved within the first thesis. In the school year 2013/14 there was the attempt to increase the leakproofness and the efficiency with small modifications. Subsequently the statement of task was to test the modified prototype and to build a dynamometer to determine the operating data. In case of satisfying results the plan was to design a control system for the NEUMOT which was difficult to adjust at this time. Because of devastating results of the first test runs the statement of task changed to that effect that the problems of the machine should be solved. New approaches were needed. The documentation of the dissertation was done simultaneously to the other work. That’s why the statement of task, the time plan and the structural plan are according to the first statement of task.

### Realization

A test run with pressured air out of a road work compressor was done right at the beginning of the thesis. The test wasn’t successful because the machine braked to standstill after a few seconds in every run. So the construction of a dynamometer was pointless at this time. A research to find machines with similar inlet principles was done simultaneously. After some time a combustion engine was found which had the inlets on the circumference of a cylinder. This concept of inlets would be a good improvement for the NEUMOT. In agreement with the partner company VEP Fördertechnik this concept was assigned to the NEUMOT and constructed completely. A final test run of the prototype was done with a more powerful compressor to determine causes for the bad operating features.

### Results

With help of two test runs it could be established that the prototype of the NEUMOT is not run capable in its form. Considering this knowledge a new inlet concept was developed and designed up to the shop drawings.
Illustrative graph, photo (incl. explanation)

Design of the new inlet concept

Participation in competitions
Awards
none

Accessibility of diploma thesis
AV Günther Hörlesberger

Approval
Examiner
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