

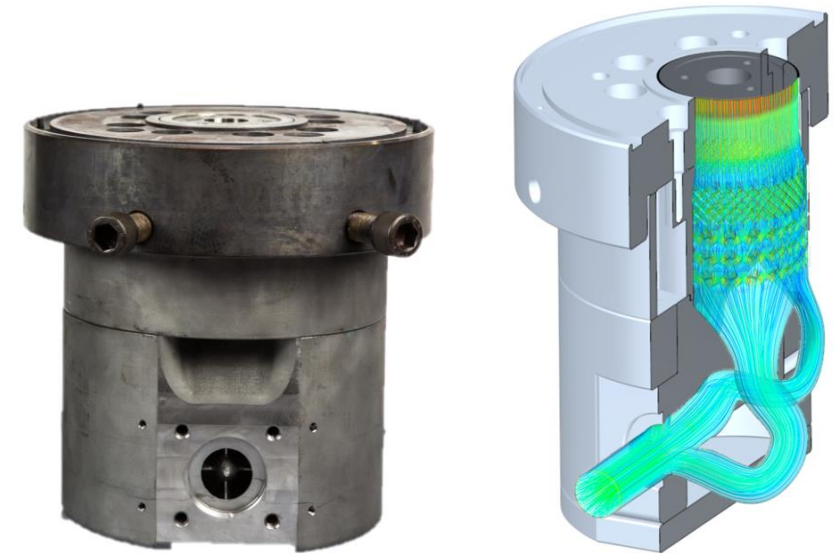
Thermo-rheological optimization of additively manufactured extrusion dies

Problem

- Extrusion dies are always a compromise between fluid mechanical design and manufacturability
- Inhomogeneous temperature balance due to lack of radial mixing effectiveness

Objective

- Further development of the novel die concept of freely guided melt flow
- Automated optimization of the die design
- Die design by adapting the functional principle of a topology optimization by means of FEM to a topology optimization by means of CFD
- Validation of the die concept by means of experimental studies



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