

Services

- Detailing of requirement profile
- Creation of specifications
- Detailed engineering
- Facility engineering
- Software development
- Conformity check and CE marking
- Construction
- Initial commissioning at the HTL
- Training



The construction of special machines takes place with the process development.«



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Contact

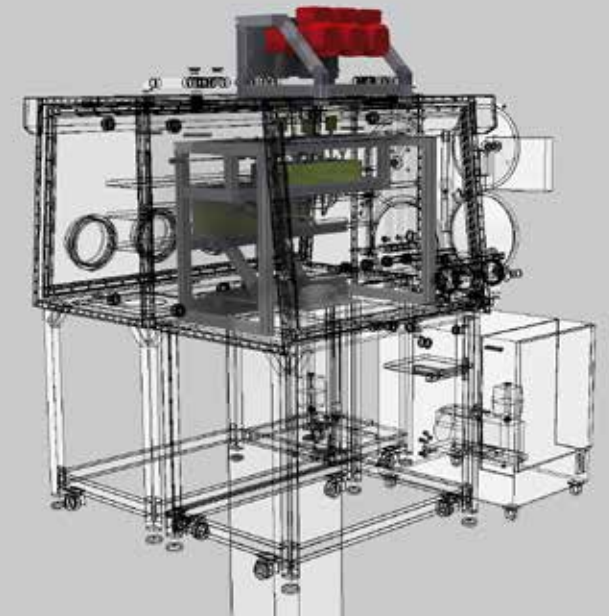
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Center for High Temperature Materials and
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Special Facilities for
Feedstock Processing



Customer Benefits

Customers receive special facilities that are precisely tailored to their needs. This concerns processing geometry and throughput as well as special process parameters. Facilities for new types of processes can also be developed to customer specifications.



Special Facilities for Feedstock Processing

Fraunhofer-Center HTL has many years of experience in the development and manufacture of special equipment for processing viscous materials: pure substances as well as mixtures such as slurries and foams. Applications are in special coating and 3D printing processes, fibre production and processing. Typical processes are extrusion, spraying, dip-coating or impregnation – also in combination with thermal treatments.



Proceedings

The requirements are specified together with the customer. From this, the HTL draws up a specification sheet and a system concept. After consultation with the customer, a detailed design is created with CAD, and if necessary the thermal, mechanical and electrical layout. With finite element analyses or model tests, critical system components are optimised. The application implements the machine safety according to Directive 2006/42/EG.

It is possible to set up systems in your own technical center and carry out the initial commissioning after approval of the concept. The HTL is capable of manufacturing special components with its own 5-axis machining center. System software developed in-house or modules, which are available on the market, are used and adapted to the specific requirements. The system receives the necessary declarations of conformity and CE markings. The customer is instructed in the operation of the system.

Development Examples

- For 3D printing of metallic and ceramic components, a so-called FFS printer (Free Flow Structuring) was developed. In this process, a slurry is applied to a pre-dried powder bed via a slot nozzle and printed with a binder using an inkjet printing process.
- For the coating of fibre rovings, a special dipping process was combined with drying and curing furnaces. This allows fibres to be gently and efficiently coated with different permanent or reversible coatings.

