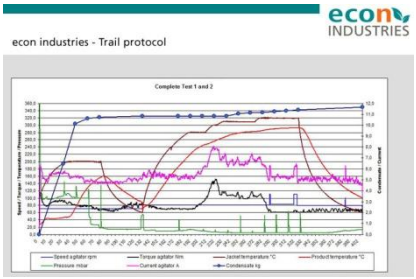
Pilot and field testing

Process and design

Apart from landfill and incineration multiple options exist for the treatment of hazardous waste. econ industries is focussed on maximising the reuse of resources from the waste in an environmentally friendly and economical way. To achieve this aim separating, as well as blending technologies are required. econ´s engineers are experts in the field of blending and separation. It is their daily job to create such solutions with experience and new developments. For example the thermal desorption of hazardous or industrial waste contaminated with volatile matters – such as mercury, hydrocarbon compounds, PCB, Dioxins, POP and VOC – is state-of-the-art in the present day environmental industry. The use of Indirect Thermal Desorption with temperatures up to 400 °C through thermal oil whilst under parallel vacuum conditions is uniquely realised by the VacuDry System. To demonstrate the capability of the process and to be able to analyse the input material with regard to it's suitability for Thermal Desorption, econ industries has designed a series of sophisticated laboratory units. Furthermore, the econ Lab consists of testing equipment for blending and stabilisation/solidification. Further process technologies such as centrifugation, sieving, magnetic separation, etc. may be added in cooperation with our partners.

All econ Lab units are fabricated as mobile units to allow us to carry out "in-situ" trials at the client's own facility. The complete supervision will be carried out by econ´s process engineers; on-site we only need electrical power, cooling water (~25 °C) and nitrogen (only for explosive matters).



Key facts

Available lab equipment:	Vacuum evaporators (max. 400 °C) and mixers in varying design and with batch sizes up to 150 liters Appropriate condensation and vapour handling units Static vacuum oven (max. 500 °C) with 1 liter capacity Various mechanical separation technologies
Heating systems:	Thermal oil up to 400 °C, steam up to 10 bar
Operating pressure:	< 10 mbar absolute pressure, if required
Required material quality:	Grain size up to 20 mm – free of extraneous material

Greatest benefits of the pilot and field testing

- Lab tests allow the involved engineers – econ and client - to research all pertinent process data
- Verification of future plant size, throughput capacity, required operating hours, etc.
- Detailed calculation of operating expenses from energy and utilities consumption, etc.
- Agreement of identification of final quality of treated products, from separated or blended fractions
- Research of material characteristics for establishing a suitable wear protection
- Studying conveying properties, to select appropriate conveying and dosing equipment

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