BIOMASS PILOT PLANT BY HOLZFORSCHUNG AUSTRIA

In a space of 240 m² and 6 m high, experimental setups for processing and pelletising of biomass can be arranged with maximum flexibility.

Applications:
The biomass pilot plant is operated by a central process control system (PCS) and has a modular structure. It can produce an output of up to 800 kg/h. Trials are developed based on statistical designs of experiment and the results can be scaled to industrial level. All this enables a broad range of applications for new raw materials, raw material mix optimization, technology comparison, process engineering and energy based process and product engineering, technical input for quality standards, development of sensors and control algorithms, performance tests, process design and optimization, profitability calculations, as well as contract manufacturing and sample production.

Input:
All biogenic raw materials such as energy wood, sawmill by-products, recovered wood, bark, energy plants, modified raw materials (e.g. torrefied, enzymatic), residues from e.g. agriculture or food production, other residues (e.g. condensates, factory seconds, ash), recyclable materials, solid and liquid biogenic or mineral additives, conveyable dry goods, etc.

Output:
Biogenic solid fuels: energy wood, pellets; semi-finished products: shavings, dusts, compacted biomass, dry material; other applications: animal bedding, animal feed, insulating materials, construction materials, porosity materials, nutrient media, etc.

Site:
Holzforschung Austria site Stetten, Gewerbegebiet 6, A-2100 Stetten

Equipment:
- Belt dryer: Andritz, 45 kW thermal, up to 70 kg/h, band surface 0,4 x 1,6 m
- Shredder: Untha, 4 axle, 15 kW, 20 and 30 mm sieve basket
- Extraneous materials separator: Teccon, ferrous and non-ferrous metals, minerals
- Hammer mill: Tietjen, 30 kW frequency drive, up to 10 m³/h, sieve 3-20 mm
- Pan grinder mill: Amandus Kahl, 30 kW frequency drive, up to 800 kg/h, sizing class 6-12 mm
- Cyclonic filter: Teccon, up to 5 m³/h, up to P16
- Oscillating sieve: Allgaier, 2 kW, 0,5-16 mm sieves, washing option
- Conditioner: Knoblinger, humidity sensors, application of solid and liquid additives
- Ring dye press: CPM, 5 kW, up to 35 kg/h, 6 mm press channel, 23-40 mm length
- Ring dye press: Salmatec, 22 kW frequency drive, up to 250 kg/h, 6 mm press channel, 25-45 mm length
- Flat dye press: Amandus Kahl, 30 kW frequency drive, up to 400 kg/h, 6 mm press channel, 18-60 mm length
- Several mobile conveyor belts, mobile bins, small mills, pallet scale, electrical forklift, central PCS
- Solid fuel lab: water content, ash, calorific value, sieve analysis, strength, bulk density, elemental analysis, special analyses e.g. thermogravimetric analysis, dynamic image analysis, single pellet press, REM/EDX, etc.

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