BHS Laboratory Capabilities for Filtration Testing of Process Slurries

Pressure & Vacuum Filtration, Cake Washing & Drying

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BHS-Sonthofen Divisions

- Mixing Technology
- Recycling Technology
- Crushing Technology
- Filtration Technology
BHS Filtration Technologies

Rotary Pressure Filter          Indexing Belt Filter          Rubber Belt Filter

Candle Filter                  Pressure Plate Filter         Autopress
LABORATORY TESTING & PROCESS PARAMETERS

- Filter Media Selection
- Filtration Pressure / Vacuum
- Cake Thickness
- Cake Washing
- Cake Drying
- Cake Discharge
- Cycle Times
- Process Observations, Scale-Up & Development
BHS-Sonthofen Inc.
Filtration Laboratory
BHS Lab Testing: Pressure/Vacuum

BHS-Pocket Filter

20 cm² filter area
400 ml content
BHS Lab Testing: Pressure/Vacuum
BHS Lab Testing: Pressure/Vacuum

Air for Pressing

Air for Blowing
BHS Lab Testing: Vacuum
BHS Lab Testing: Cake Structure
BHS Lab Testing Capabilities

**Pressure & Vacuum Slurry Filtration**

- **Operation:** 90 psig/FV
- **Temperature:** 200 degrees C maximum
- **Materials of construction:** 316 Ti stainless steel
- **Filter media:** Synthetic and Metal
- **Filter Efficiency Clean:** 0.5 um and higher
- **Filter Area:** 20 cm² and 56 cm²
- **Slurry Capacities:** 250, 400, 1000 ml
- **Other materials available:** Polypropylene and Hastelloy
BHS Lab Testing Capabilities

- **Slurry Preparation:**
  - Reaction Chemistry, Precipitation, Dissolution & Mixing

- **Filtration Evaluation:** Cake Solids & Filtrates

- **Cake Structure Evaluation:** Thickness, cracking, etc.

- **Filter Aid:** Selection, Precoat and/or body feed

- **Cake Washing**

- **Drying**

- **Cake Discharge**
BHS Lab Testing Capabilities

- **Type of Washing:**
  - Displacement
  - Dissolution
  - Counter Current
  - Co-current

- **Wash Ratio**
- **Wash Cycle Times**
- **Wash Effectiveness**
- **Wash Temperature**
- **Liquid Flow Rates**
BHS Lab Testing Capabilities

- **Drying Techniques:**
  - Pressure Blowing with air or nitrogen/argon/etc.
  - Vacuum
  - Steaming

- **Additional Mechanical:**
  - Cake Squeezing/Pressing

- **Evaluation:**
  - Temperature
  - Combination of techniques
  - Cake Release
  - Gas Flow Rates
BHS Lab Testing Capabilities: Analytical

- Turbidity, Conductivity & pH
- Gravimetric for density & total suspended solids
- Refractometer for dissolved solids
- Lab centrifuge
- Microscope with camera
- Moisture – Vacuum oven with automation
- Special tests available upon request
BHS Capabilities Summary

- BHS Test Report: Technology Recommendations, Scale-up & Observations and Process Development
- Customer Visits Encouraged During Testing
- Process Consulting and Collaboration
- Pocket Leaf Filter Available for Rental or Purchase
- On-site Testing & Training Available at Client Facility
- Pilot Plant Testing with Filtration Technology from 0.1 to 1 m²; special larger size units available
Website:  www.bhs-filtration.com
Blog:  www.perlmutterunfiltered.com
Book:  Practical Guide in Chemical Engineering: Solid-Liquid Filtration
       (Elsevier Publishing)
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