
BHS Laboratory Capabilities for Filtration Testing of Process Slurries

Pressure & Vacuum Filtration, Cake Washing & Drying

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BHS-Sonthofen Divisions

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Mixing Technology



Recycling Technology



Crushing Technology



Filtration Technology

BHS Filtration Technologies

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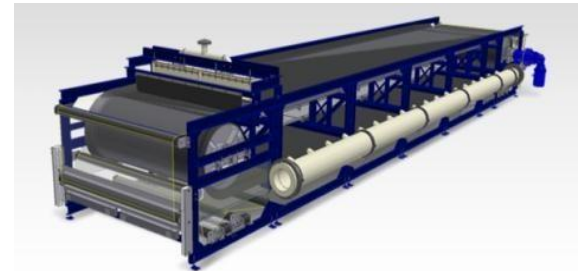
Rotary Pressure Filter



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

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BHS-Pocket Filter

20 cm² filter area

400 ml content



BHS Lab Testing: Pressure/Vacuum



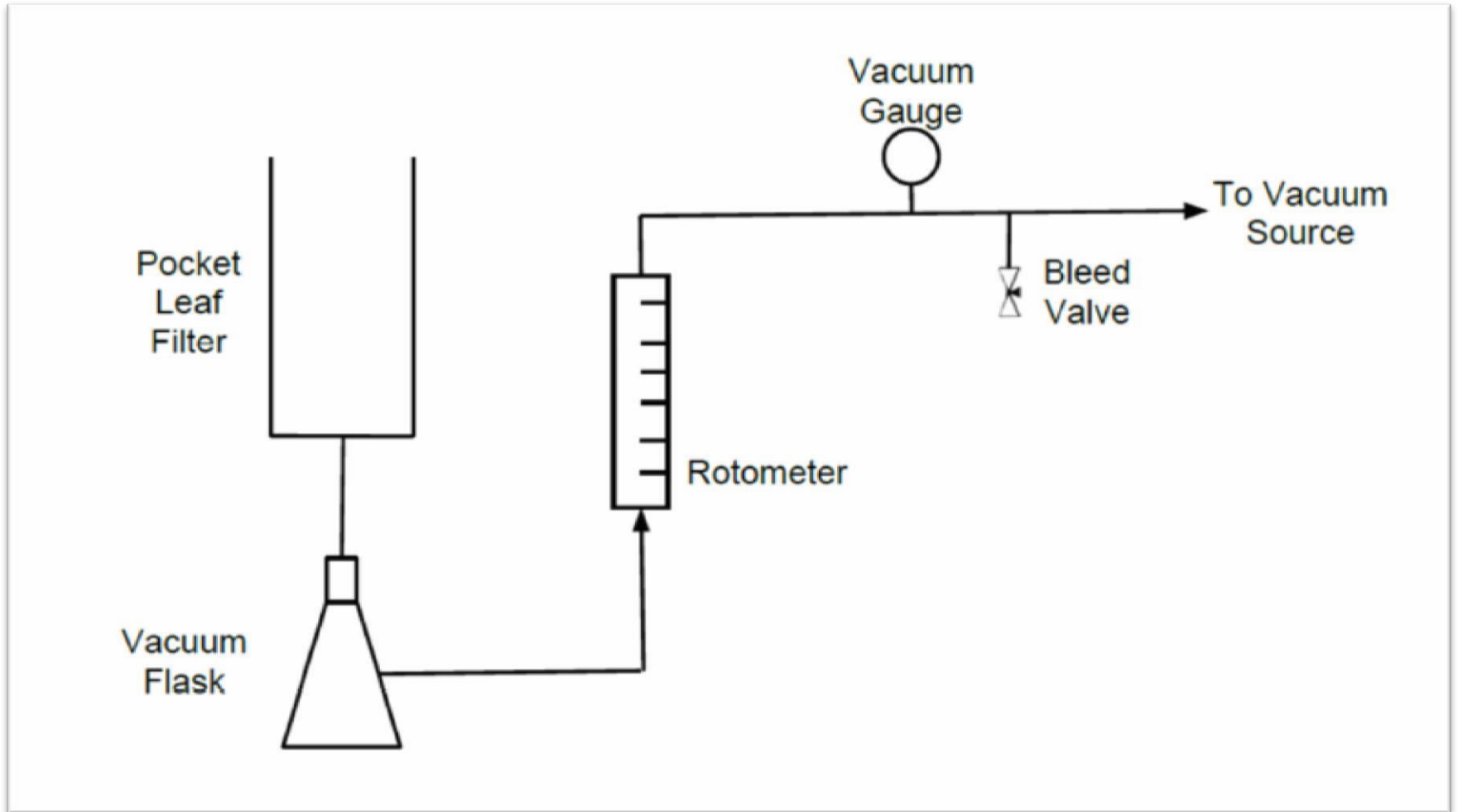
BHS Lab Testing: Pressure/Vacuum

Air for
Pressing

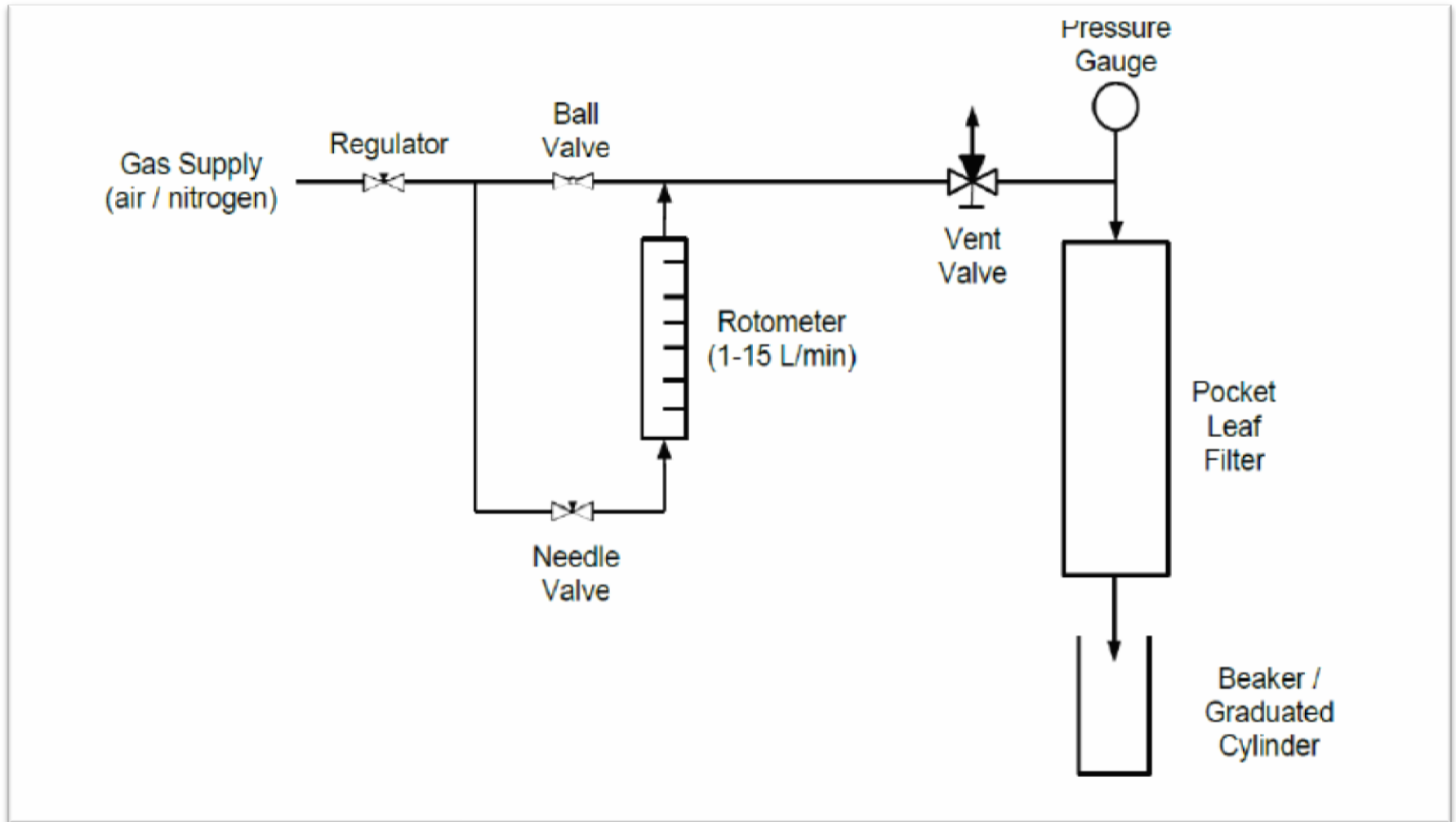


Air for Blowing

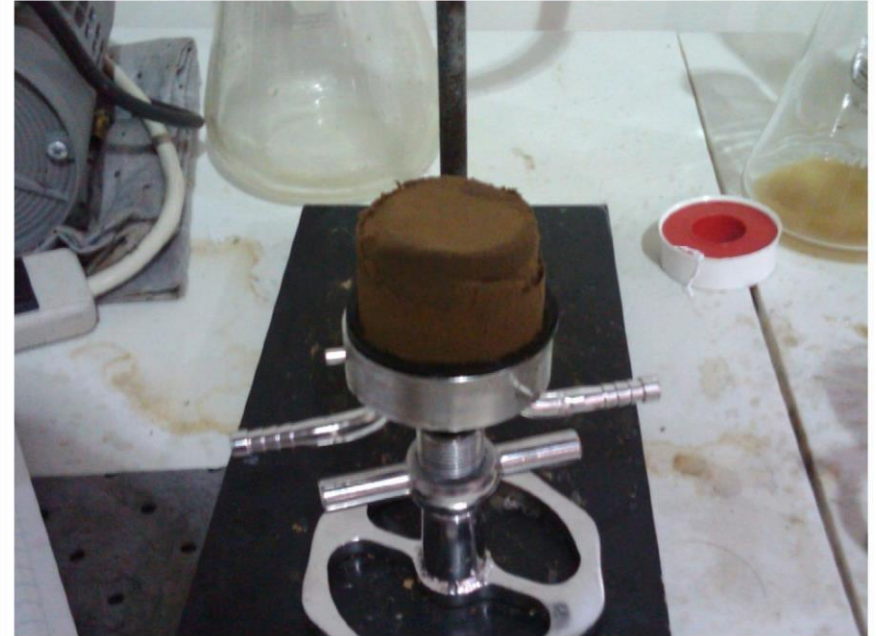
BHS Lab Testing: Vacuum



BHS Lab Testing: Pressure



BHS Lab Testing: Cake Structure



■ 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 μm and higher
- Filter Area: 20 cm^2 and 56 cm^2
- Slurry Capacities: 250, 400, 1000 ml
- Other materials available: Polypropylene and Hastelloy

- **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**

- **Type of Washing:**
 - Displacement
 - Dissolution
 - Counter Current
 - Co-current
- **Wash Ratio**
- **Wash Cycle Times**
- **Wash Effectiveness**
- **Wash Temperature**
- **Liquid Flow Rates**

- **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



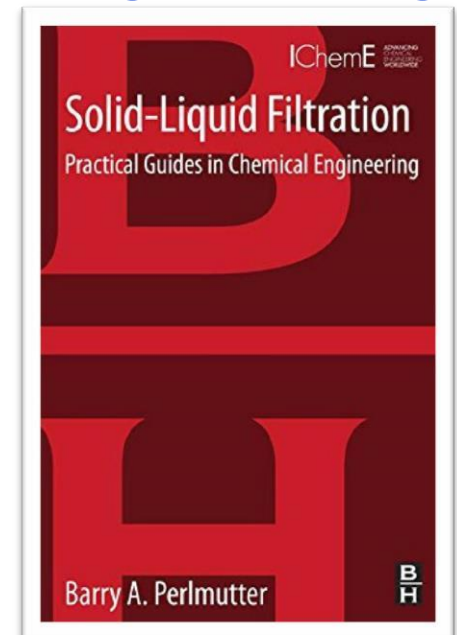
- BHS Test Report: Technology Recommendations, Scale-up & Observations and Process Development
- Customer Visits Encouraged During Testing
- Process Consulting and Collaboration
- Pocket Leaf Filter Available for Rental or Purchase
- On-site Testing & Training Available at Client Facility
- Pilot Plant 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)

<http://www.bhs-filtration.com/book/>



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