

Raymond® Pilot Plant Testing Facilities

Because the time to test is before you buy...

Testing makes "almost" disappear

The purchase of process equipment can involve considerable risk because selecting equipment that's "almost" right for the job can be an expensive mistake. Eliminate that risk by testing before purchasing. The Raymond pilot plant testing facility was designed to do just that.

Raymond testing resources

Our twenty-five thousand square foot facility is used exclusively to test and demonstrate the capabilities of Raymond® and Bartlett-Snow™ equipment under simulated production conditions. It houses a wide range of full-scale processing equipment capable of grinding, classifying or thermally processing virtually any mineral, chemical, food or other material. Equipment is also available to perform pre- and post-processing chemical and physical analyses.

Raymond does it differently

Some manufacturers test process materials in small quantities on small scale or bench models. We don't. We test large material lots on full-size equipment to reduce much of the uncertainty of scale-up between bench and full-scale equipment. Managing large production quantities of test materials often uncovers handling difficulties and other problems which might otherwise be overlooked.

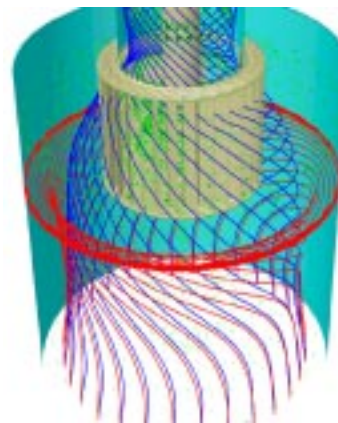


The Raymond Pilot Plant Testing Facility, Naperville, Illinois, is a specially designed testing facility that houses a wide selection of full-scale pulverizing, classifying, and thermal processing equipment.

Capabilities

You will work closely with our experienced engineers and technicians to simulate the environment of your operations as closely as possible. After the test, you'll receive a computerized, analytical report, as well as our recommendations for equipment to best address your application.

Our research and development staff can perform computational fluid dynamics (CFD) computer simulation for many different types of processes, contributing to our ability to understand the application. For example, CFD analyses have been conducted on dynamic classifiers to optimize design. New product innovations are conceived, tested and developed at our facility before release to our customers.



Computational Fluid Dynamics
Computer Simulation



Air Preheater Company
Raymond Operations

Pulverizing Capabilities

- **Raymond® Roller Mill:** Over 1,000 types of non-metallic materials have been tested at the facility.
- **Raymond® Imp™ Mill:** Best for materials low in abrasion characteristics.
- **Raymond® Vertical Mill:** Utilized on a wide variety of non-abrasive materials.
- **Screen Mills:** Screen size opening dictates the product's particle size distribution.
- **Other Raymond® Pulverizers**

Particle Size Separation

- **Jet Stream™ Classifier:** Ultra fine classification
- **Dynamic Turbine Classifiers for Mills**
- **Mechanical Air Separators:** Fine classification
- **Screen Tests**

Thermal Equipment

- **Bartlett-Snow™ Rotary Electric Calciner:** For indirect heating, calcining or other heat treatment of materials in an oxidizing, inert or reducing atmosphere.
- **Bartlett-Snow™ High Temp Rotary Calciner:** Special non-metallic cylinder capable of temperatures up to 1500°C.
- **Bartlett-Snow™ Rotary Dryer:** For drying a variety of materials which may be brought into contact with the products of combustion.
- **Bartlett-Snow™ Rotary Kiln:** Direct-fired high-temperature calcination of various process materials up to 1500°C.
- **Raymond® Flash Drying System:** For simultaneous drying and transport of materials requiring minimum retention time.

Material Tests

- **Moisture Analysis:** Moisture analysis and loss of ignition test.
- **Particle Size Distribution Analysis:** Several techniques are available to determine particle size distribution.
 - **Microtrac:** Computer-based analyzer using laser scattering technology to determine the full range of distribution from 704 microns down to 0.17 microns.
 - **Ro-Tap Screen Analysis:** Determines particle size from 1 inch down to 500 mesh (31 microns).
 - **Alpine Air Sieve:** Vacuum operated single screen analysis.
- **Abrasion/Grindability Analysis**
 - **Raymond Grindability Test:** Determines the grindability characteristics of different materials.
 - **Raymond Abrasion Test:** Determines the abrasion characteristics in order to select mill type and predict parts life.
 - **Hardgrove Grindability Test:** Determines grindability for coal samples.
 - **Material Specific Gravity and Bulk Density Measurement**



Materials Tested

Here are a few of the many materials that have been tested in the Raymond pilot plant testing facility:

Alumina, Aluminum Hydrate, Ammonium compounds, Antimony Sulphide, Barium Nitrate, Barytes, Bentonite, Biomass, Borax, Burnt Lime, Calcium compounds, Carbon (activated), Chalk, Charcoal, Clays, Coal, Cocoa, Coke, Corn Gluten, Detergents, Diatomaceous Earth, Dolomite, Fluorspar, Grains, Graphite, Gums, Gypsum, Hydrated Lime, Kaolin, Lignite, Lime, Limestone, Litharge, Magnesite, Magnesium compounds, Metal Oxides, Metal Powders, MnO₂, Peat, Pigments, Plastics, Polymers, Potassium compounds, Potatoes, Resins, Salts, Sawdust, Silica, Sludges, Sodium compounds, Soy Bean Meal, Starch, Strontium Nitrate, Sugars, Talc, TiO₂, Tobacco, Wheat Gluten, Wollastonite, Wood, Zeolite, Zircon.

ALSTOM

ALSTOM Power, Inc., Air Preheater Co., Raymond Operations

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