



SOUTHWEST RESEARCH INSTITUTE



Encapsulation Process Engineering

Southwest Research Institute® (SwRI®) provides onsite/offsite consultation, design, fabrication, process development and scale-up services in a variety of encapsulation engineering areas, including:

Spinning Disk

- Batch and continuous systems
- 4" to 12" single and multi-disk atomizers

Spray Congealing/Prilling

Spray Drying

Feed Systems

- Batch/continuous inline mixing
- Heat tracing

Collection Systems

- Powdered bed, cyclone, bag-house
- Cold oil (example: gelatin congealing)

Trajectory and Prilling Modeling

- Case studies
- Chamber size optimization

Spray Characterization

Chemical Encapsulation

Chemical and Drug Synthesis

Computational Fluid Dynamics (CFD)

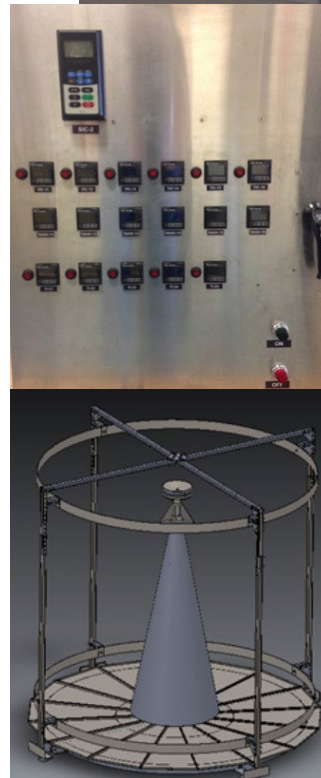
Extrusion

- Custom co-extrusion nozzles
- Take-up processes

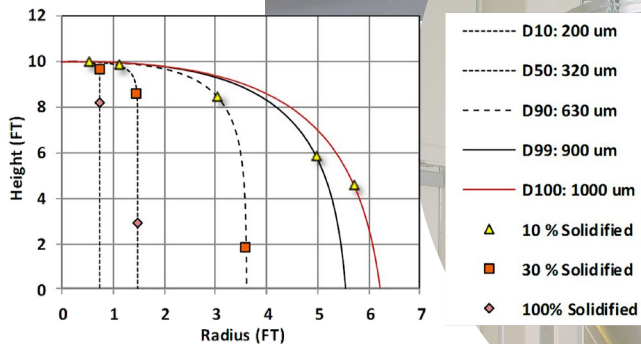
Process Control

- PAC, PLC, HMI/SCADA, ROS

3D Printing of Custom Formulations



cGMP 50 kg batch spinning disk unit (prilling)



Combined trajectory and prilling model



Continuous spinning disk unit (prilling or spray drying)



**We welcome your inquiries.
For more information, please contact:**

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The Chemistry and Chemical Engineering Division of Southwest Research Institute has achieved certification to ISO 9001:2008, an internationally recognized quality standard.

Microencapsulation Section
Pharmaceuticals and Bioengineering Department
Chemistry and Chemical Engineering Division

microencapsulation.swri.org

SOUTHWEST RESEARCH INSTITUTE®

Southwest Research Institute® is a premier independent, nonprofit research and development organization. With ten technical divisions, we offer multidisciplinary services leveraging advanced science and applied technologies. Since 1947, we have provided solutions for some of the world's most challenging scientific and engineering problems.

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