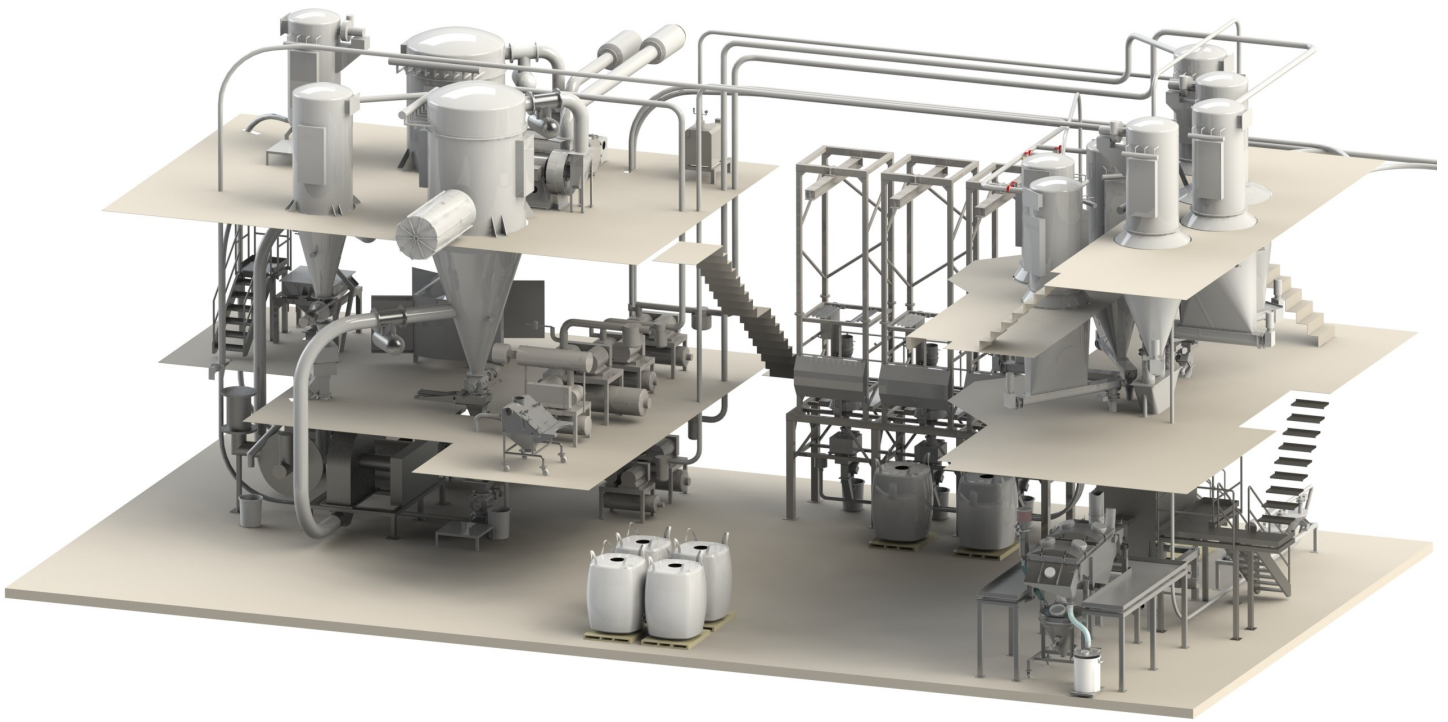


CUSTOM HYGIENIC POWDER HANDLING & PACKAGING SYSTEMS
FROM CONCEPT TO COMPLETION



INTRODUCTION

Powder Process Solutions is an engineering company and leading supplier of custom dry powder processing and packaging solutions handling everything from raw ingredients to finished goods.

6724
Projects
Completed

868
Tests
Completed

60
Powder
Experts

50
Years in
Business

A successful process starts with a superior system design. PPS customers benefit from over 50 years of extensive system application experience and powder testing. We know what works and what doesn't. We work closely with our customers to understand their needs in order to provide expert design and consulting services for new and existing powder handling systems in need of an upgrade.

We strive to provide cost effective solutions that meet key performance requirements now with consideration for future design flexibility to grow with your business. Our attention to detail is second to none with all equipment thoroughly inspected and FAT before shipment, preassembled where practical for a faster installation to production time.

"I continue to be amazed at the professionalism with which PPS has conducted themselves with throughout this project, always being well prepared, delivery to commitments made and exceeding expectations with responsiveness and documentation.

Powder Process-Solutions is such a breath of fresh air."

DARIN
Dairy Industry

MARKETS SERVED

PPS focuses on markets that require stainless steel product contact surfaces or hygienic food safe design which may include ready disassembly features or clean-in place capabilities where there is an emphasis and value placed on QUALITY.

Through our understanding of best practices for design and construction we are able to provide system and component solutions to meet the world's most stringent sanitation and regulatory standards or can custom design to suit our customers own unique equipment quality standards.

Industries Served:

- Infant nutrition
- Dairy
- Food
- Nutritional & beverage
- RTE cereal
- Spice & flavorings
- Nutraceutical



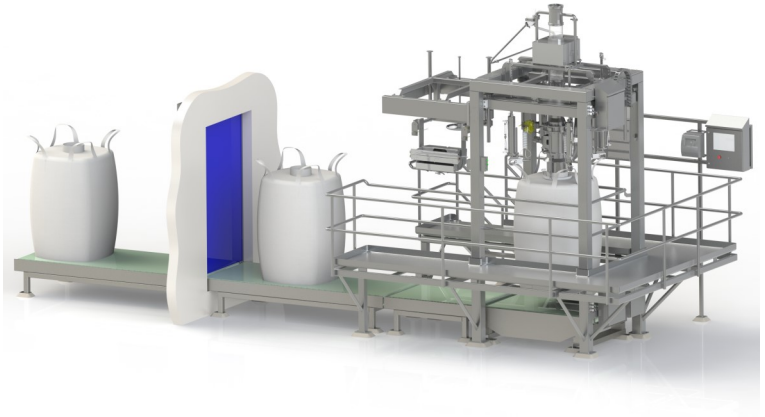
DESIGN PRINCIPLES

PPS is a pioneer of innovative designs that are efficient, safe, easy to clean and maintain while being compliant with the latest NFPA, ATEX and recognized sanitary standards. PPS specializes in designs that convey and process powders gently with minimal change to a powder's properties or characteristics such as uniformity, particle size distribution and bulk density when there is a concern for degradation, segregation and powder build up.

With custom design, equipment is purpose built for the application so that only needed features are incorporated, simplifying the solution. Form follows function where high emphasis is placed on ease of maintenance and access in addition to operation. The result is less down time and more production.

Design Focus:

- Minimalist design—for ease of cleaning & maintenance
- Tool-free—quick take apart design
- Hygienic design—radius corners, no cracks or crevices, no drip, drain or draw in product contact zones
- CIP ready for manual or automatic nozzles & sprays
- Mobile & modular equipment for quick change out
- Pre-assembled, wired & plumbed equipment assemblies & skids



SERVICES

PPS offers a full range of services to help our customers every step of the way from concept to completion. All systems are designed, project managed, installed and commissioned with US based engineers for responsive support.

Service Focus:

- Feasibility studies, concept development
- Preliminary engineering
- Design – ACAD & 3D Modeling
- Project Management
- Fabrication & Assembly
- Controls & Automation
- Documentation
- Quality Control & FAT
- Installation & Advisory Services
- Start Up & Commissioning
- Service & Spare Parts
- On-Site Training & Service
- System Audits & Process Optimization



Our state-of-the-art test facility allows for testing of powders under simulated processing conditions to qualify system performance before final design and purchase. This gives our customers the assurance and confidence that proposed solutions will perform as intended while identifying any risks that need to be addressed in the execution of the final design.

Testing services include dense and dilute phase conveying, sifting, milling, vibratory conveying, metal separation, weighing and metering accuracy, flow aids and determination of powder properties with fully documented reports.

UNLOADING

Bulk material unloading requirements can vary greatly based on the properties, volume and rate of powder being handled. PPS provides customized solutions that fully integrate with downstream processing requirements to operate in a reliable, dust-free manner.

Unloading systems include:

- IBC unloading
- Bag & drum dumping
- Bulk bag unloading
- Truck & railcar unloading



STORAGE

The storage of dry ingredients and powders is an integral part of bulk powder handling. PPS provides customized powder storage options with a focus on meeting individual customer design requirements for space, capacity and cleaning.

Storage systems include:

- Hoppers
- Silos
- Receivers
- Filter receivers



CONVEYING

PPS has extensive experience mechanically and pneumatic conveying powders between processes. Each system is custom designed to suit the application to offer the best efficiency, process flexibility and cleaning considerations.

Pneumatic conveying solutions include conventional dilute phase through to PPS ultra dense phase technologies which convey powders gently at low velocities when there is concern for degradation, segregation, smearing and wear.

Conveying systems include:

- Pneumatic Pressure Conveying- Dilute & Dense Phase
- Pneumatic Vacuum Conveying- Dilute & Dense Phase
- Screw conveyors
- Vibrating conveyors
- Flex augers
- Tubular chain conveyors
- Differential motion conveyors

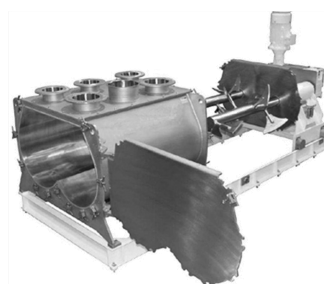


PROCESSING

PPS provides a complete range of solutions for powder processing to support everything from mixing, size reduction, delumping, classifying, screening, and foreign material separation through to accurate weighing and metering of multiple ingredients.

Processing systems include:

- Weigh Batching
- Sifting
- Mixers and Blenders
- Delumping & sizing
- Milling
- Grinding
- Metal separation & detection
- Dust collection & central vacuum cleaning
- Gassing systems



25KG BAG FILLING

PPS provides precise and accurate semi to fully automatic 25kg bag filling systems. Each system is designed for ease of use with minimal operator intervention with dust free operation.

25kg bag fillers include:

- Capacities from 60 to 600 bags/hr+
- Semi automatic - manual bag loading & transfer
- Fully automatic - hands free bag loading, filling, sealing & closing
- Hygienic design & dust-free operation
- Gassing for extended shelf life
- Integrated powder feed & palletizing solutions



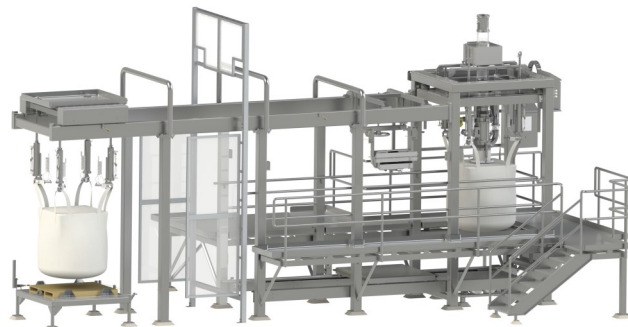
BULK BAG FILLING

PPS bulk bag fillers combine precise weighing with efficient volume filling capabilities.

Basic manual filling frames through to fully automatic systems with bag transfer to remote palletizing are available.

Bulk bag filling includes:

- Platform scale & suspended scale weighing systems
- Bag densification
- Bag inflation & venting systems
- Bag liner heat sealing
- Overhead trolley & base conveyor transfer options
- Integrated powder feed & palletizing



CONTROLS

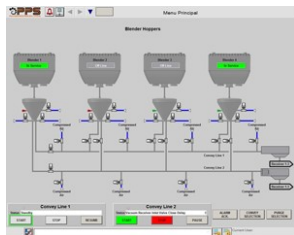
The control system is the heart of the process and critical to the success and efficiency of any hygienic powder handling system.

PPS controls systems are designed with the operator in mind, being intuitive, easy to use with operator help and prompt functions along with recipe screens for systems settings to efficiently handle different products.

Real time feedback and reporting provides production management the necessary tools to optimize operations for increased production.

Control design includes:

- Latest PLC, HMI, & SCADA systems
- Rockwell solutions
- ES manufacturing, execution system
- Batch system IS88



COMPONENTS

Specialty components are just as important as the system they are integrated into. Our system experience translates into the ability to supply the right size & type of components to best support & upgrade current processing systems.

Components include:

- BFM fittings
- Blowers
- Butterfly valves
- MAGNATTACK Magnetic separators
- Rotary valves
- Samplers
- Sifters
- Diverter valves





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