



MANUFACTURING GROUP

PreciXion | DP | AIS | FuXion | EmuXion | QuantumX

ENGINEERING THE FUTURE OF NUTRITIONALLY ENHANCED SNACK FOODS

From Nutritional Concept
to Commercial Production

One Process.
One Engineering Partner.

www.procxinc.com

1. THE NEW ERA

NUTRITION MEETS INDULGENCE

Consumers expect more from their snacks.
Today's market demands products that
deliver exceptional taste and texture—
and meaningful nutrition.

Protein. Collagen. Fiber. Vitamins.
Electrolytes. Plant-based nutrition.
Functional ingredients are driving
the next generation of growth.

The opportunity is enormous.
The manufacturing challenge
is real.



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2. A FORMULA IS NOT A MANUFACTURING PROCESS.

A great product in the lab does not guarantee success in the plant. Commercial production introduces variables that can change everything:

- ✓ Powder flow and handling
- ✓ Ingredient accuracy
- ✓ Mixing homogeneity
- ✓ Extrusion performance
- ✓ Nutrient retention
- ✓ Drying and texture
- ✓ Coating effectiveness
- ✓ Sanitation and changeover
- ✓ Consistent package weight
- ✓ And more...



Proc-X engineers the process between the formulation and the finished package.

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3. THE NUTRITIONAL CLAIM BEGINS AT RECEIVING.

Every nutritional statement on the package depends on what happens long before the product reaches the consumer.

Accuracy, consistency and protection begin at ingredient receiving and continue through every step of the manufacturing process.



4. FUNCTIONAL INGREDIENTS.

DIFFERENT BY NATURE.

Proteins, fibers, collagen, vitamins, minerals and botanicals behave differently.

They affect flow, mixing, extrusion, texture, moisture and more.

Same ingredient name.
Different behavior.

Our job is to engineer the system around the ingredient.



5. INGREDIENT ECONOMICS

DRIVE PRECISION.

High-value ingredients demand high accuracy.

A 1% overdose of a premium protein or vitamin premix can cost thousands of dollars every day.

Through AIS – Automated Ingredient Systems, we design feeding and dosing solutions that protect your formulation and your bottom line.



Macro, minor and micro dosing



Loss-in-weight & gain-in-weight systems



Automated batching



Ingredient traceability



Reduced giveaway



Improved profitability



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6. MIXING: THE FOUNDATION OF NUTRITIONAL CONSISTENCY.

Uniform mixing ensures every serving delivers the intended nutrition.

QuantumX offers the right mixing technology for every formulation.



Ribbon & paddle mixers



Plough & high-intensity mixers



Fluidized-zone mixers



Vertical & conical mixers



High-shear & vacuum mixers



Liquid addition & dispersion



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7. EXTRUSION.

WHERE ENGINEERING & FOOD SCIENCE MEET.

Protein levels, moisture, temperature, and shear all impact expansion, texture, density and nutrition.

Fuxion extrusion systems are engineered for flexibility, control and product performance.



Versatile extruders



Precise process control



Broad operating windows



High performance



Consistent results



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8. DRYING, COATING & NUTRIENT PROTECTION.

Moisture control defines texture and shelf life.

Coating systems can deliver flavor and sensitive nutrients after high-temperature processing.

— *ThermoFlow*

Engineered drying and cooling for optimal texture and stability.

— *EmuXion*

Precision coating systems for oils, flavors and functional ingredients.

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9. INSPECTION & PACKAGING.

PROTECTING QUALITY.

From metal detection to checkweighing and end-of-line packaging, we ensure every package that leaves your plant meets the highest standards.

InspeX

- Metal detection
- Checkweighing
- Reject systems
- Data collection

PreciXion

- Weighing & filling
- Pouching & bagging
- Cartoning & case packing
- End-of-line automation

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10. AUTOMATION

CONNECTS THE ENTIRE PROCESS.

One control architecture.
One recipe.
One source of truth.
Complete traceability.
Total confidence.

- ✓ Recipe management
- ✓ Batch control
- ✓ Production sequencing
- ✓ Data collection
- ✓ Traceability
- ✓ Alarms & analytics
- ✓ Future recipe expansion



Proc-X automation unifies every step of production—delivering precision, consistency, and complete visibility.



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11. INGREDIENT VARIABILITY.

ENGINEERED FOR REALITY.

Raw materials can vary from supplier to supplier and lot to lot. Particle size, moisture, bulk density, protein content, flowability and functionality all impact processing and final product quality.

Proc-X designs systems with operating envelopes that maintain consistency—no matter the natural variability.

- ✓ Tolerate variability without sacrificing quality
- ✓ Stable production through changing conditions
- ✓ Protect product performance and brand reputation



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12. NUTRIENT SURVIVABILITY.

PROTECT WHAT MATTERS.

Nutrients can be lost or changed by heat, shear, oxygen and moisture. We engineer the route of each functional ingredient to maximize retention and deliver the intended benefit.

KEY FACTORS THAT IMPACT RETENTION:

-  Extrusion temperature
-  Moisture levels
-  Residence time
-  Oxygen exposure
-  Shear
-  Drying profile
-  Storage conditions
-  Post-process handling



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13. CHANGEOVER AS A COMPETITIVE EDGE.

FLEXIBILITY THAT PAYS.

More products. More ingredients.
More frequently. Our systems are
designed for fast, safe, efficient
changeovers—reducing downtime,
product loss and risk.

- ✓ Quick transitions between recipes
- ✓ Allergen management engineered in
- ✓ Minimal product recovery and waste
- ✓ Automated routing and flush sequences
- ✓ Cleanable by design



Proc-X systems are built for
change. So you can stay
ahead of what's next.

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14. SCALE-UP WITH CONFIDENCE.

LAB SUCCESS TO COMMERCIAL REALITY.

Scaling up is not just building
a bigger machine.
Physics changes.
Material behavior changes.
Performance changes.

Proc-X engineers scale-up—ensuring
consistent product quality and
operational success from pilot
production to full production.



Process development
and optimization



Pilot to production
scale-up



Predictable performance
at every scale



Lower risk, faster
commercialization



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15. BEYOND EXTRUSION.

A BROADER OPPORTUNITY.

Functional snacking spans every major category—and so does Proc-X.



Extruded Snacks



Baked Snacks



Bars & Bites



Cereals & Granolas



Coated Snacks



Confectionery



Nut & Seed Products



Dried & Freeze-Dried



Powdered Nutrition

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16. EVERY STEP CONNECTS.

ONE PROCESS. ONE RESULT.

What happens in one operation affects every operation that follows. Our integrated approach eliminates weak links and builds strong, reliable connections across the entire line.

- ✓ Milling → Conveying → Dosing
- ✓ Mixing → Extrusion → Drying
- ✓ Coating → Inspection → Packaging
- ✓ Every step engineered to support the next



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17. AUTOMATION THAT DELIVERS.

CONTROL. CONSISTENCY. CONFIDENCE.

Integrated automation turns equipment into a coordinated production system. Recipes. Data. Traceability. All under control.



Recipe management and batch control



Real-time monitoring and alarms



Data collection and reporting



Traceability from ingredient to package



Easy addition of future recipes



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18. INSPECTION ENGINEERED FOR RISK.

PROTECT PRODUCT. PROTECT BRAND.

Inspection is integrated at the points where it provides the greatest protection. Multiple inspection technologies can be applied to match your risk and product requirements.

-  Metal detection
-  Checkweighing
-  Reject systems
-  Data collection and reporting
-  Protect equipment and finished product



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19. PACKAGING PROTECTS YOUR PROMISE.

PRESERVE QUALITY. DELIVER VALUE.

From accurate weighing to secure sealing, our packaging solutions protect the nutritional value, texture, flavor and appearance your process delivers.

- ✓ Weighing & filling
- ✓ Pouching & bagging
- ✓ Form-fill-seal
- ✓ Cartoning & case packing
- ✓ End-of-line automation
- ✓ Traceability & data integration

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20. BUILT FOR TODAY. DESIGNED FOR TOMORROW.

FLEXIBLE. SCALABLE. FUTURE-READY.

The snack food industry evolves fast.
Your manufacturing partner should too.

Proc-X builds systems that adapt—so you can
innovate, respond and grow with confidence.



MODULAR SYSTEMS

Equipment and automation
built to expand as your needs grow.



SCALABLE ARCHITECTURE

From pilot to commercial scale—
seamless and repeatable.



EXPANDABLE AUTOMATION

Integrated controls that evolve
with your process.



FUTURE INGREDIENT ADAPTABILITY

Design flexibility for new formulations
and functional ingredients.



LONG-TERM VALUE & PERFORMANCE

Built for reliability, efficiency
and maximum uptime.



PARTNER WITH PROC-X

Innovation backed by engineering.
Systems built for success.
Let's build what's next—together.



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