



Trusted Leader in Process Containment Technologies



Tailored to Your Process Throughout Your Production Facilities



Dec's comprehensive solutions cover the entire production process, from incoming materials to the final product.

Contained Bulk Handling

Conveying, Discharging, Filling, Sampling, Liquid Handling

Containment Facilities

Workbenches, Downflow Booth, Mobile Clean Rooms

Isolator Technology

Process Isolators for API and Secondary Manufacturing Operations

Sterile/Aseptic Processing

oRABS, Aseptic Isolators (Sterility Testing, Handling), Cell Therapy Isolators, Aseptic Fill/Finish

Nuclear Containment

Hotcells, Containment Gloveboxes, Radiopharmaceutical Containment

Process Linking

Interconnecting process equipment in sterile and high containment applications

As the manufacturing industry faces an increasing prevalence of toxic ingredients, particularly within the pharmaceutical sector where companies are developing progressively complex and potent molecules, implementing a robust containment strategy has become essential rather than optional.

At Dec we have prioritized containment in our technologies since our inception, and our approach extends well beyond glove boxes. Every step of the process, from raw material input to the final product, must ensure that substances remain securely contained within a clearly defined area. This protects not only the operators but also the integrity of the product and the surrounding environment.

Leveraging industry expertise is crucial for devising the right containment strategy. We offer customized solutions covering all steps from consultation to final delivery and tailored to your specific needs, whether your process requires aseptic conditions or simply the appropriate enclosure to control product toxicity.

Mitigating the Risks Associated With High Potency Products

OEB (Occupational Exposure Band)	7	< 50 ng/m ³	OEL (Occupational Exposure Limit)	Lethal toxicity	< 0.0005 mg	ADE (Acceptable Daily Exposure)
	6	50–200 ng/m ³		Extreme toxicity	0.0005–0.002 mg	
	5	0.2–1 µg/m ³		Very high toxicity	0.002–0.01 mg	
	4	1–10 µg/m ³		High toxicity	0.01–0.1 mg	
	3	10–100 µg/m ³		Medium toxicity	0.1–1 mg	
	2	100–1000 µg/m ³		Low toxicity	1–10 mg	
	1	1000 µg/m ³		Very low toxicity	10 mg	

Product Quantity	Nanogram	Airborne Potential	Micronized Powder	Product/Environment	Use of solvents (ATEX)	Task Duration	Task specific risk assessment is much more accurate when measuring exposure potential. Time weighted average is no longer suitable. Dec takes into account the time the operator is potentially exposed and develops the containment strategy around that specific period.
	Microgram		Dense Powder		cGMP requirements		
	Gram		Crystals		Temperature / RH / Oxygen (MIE)		
	Kilogram						
	Tons		Liquid or Slurry		Skin Sensitivity		

Containment Strategy	OEB 1	OEB 2	OEB 3	OEB 4	OEB 5–7
	General Ventilation	Downflow Booth	Single Barrier Containment	Containment Isolators	Containment Isolators with Transfer Ports and Multiple Chamber Process*

* To reduce risk when removing the most critical materials from an isolator system, we adopt a multiple chamber removal process. By passing material through a primary liner into an intermediary decontamination chamber, then passing through a secondary liner system to the room we avoid any risk associated with incorrectly sealed or damaged liner material.

To improve occupational safety and maintain environmental health, containment strategy is a fundamental safety measure that plays a crucial role in mitigating the risks associated with handling toxic products. The effectiveness of this strategy depends on several factors. In situations where products are highly toxic, the containment strategy needs to be more stringent to prevent damage.

Likewise, the amount of product handled must be considered to ensure that containment is adequate. In addition, the product's air potential as well as the duration of the task are important considerations in the effectiveness of the containment strategy. Ultimately, a robust containment strategy is essential for effective safety protocols. Occupational safety professionals must continuously evaluate and refine these strategies, with Dec playing a pivotal role in this process.

Highly contained bulk handling solutions from milligrams to tons with automated material transfer to the next process.



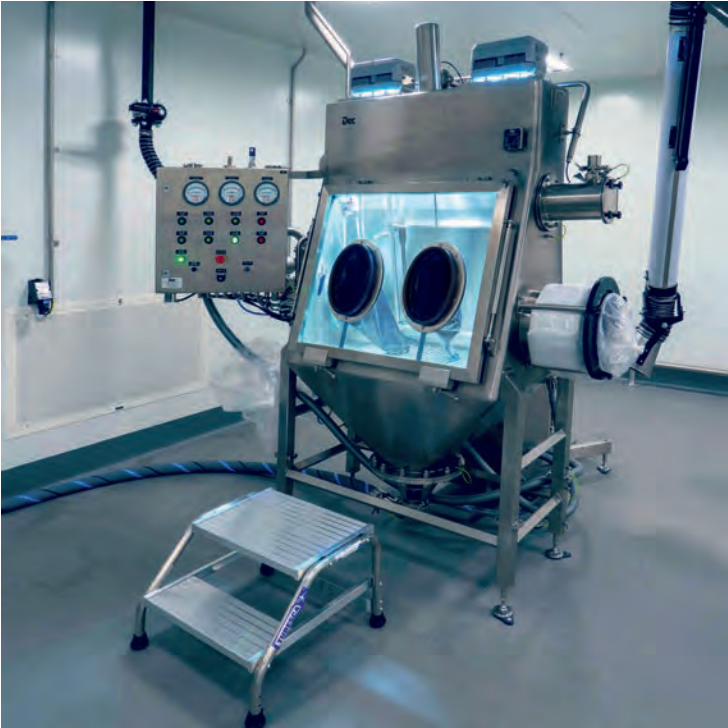
FIBC Discharge
High containment DCS® docking system

Discharge

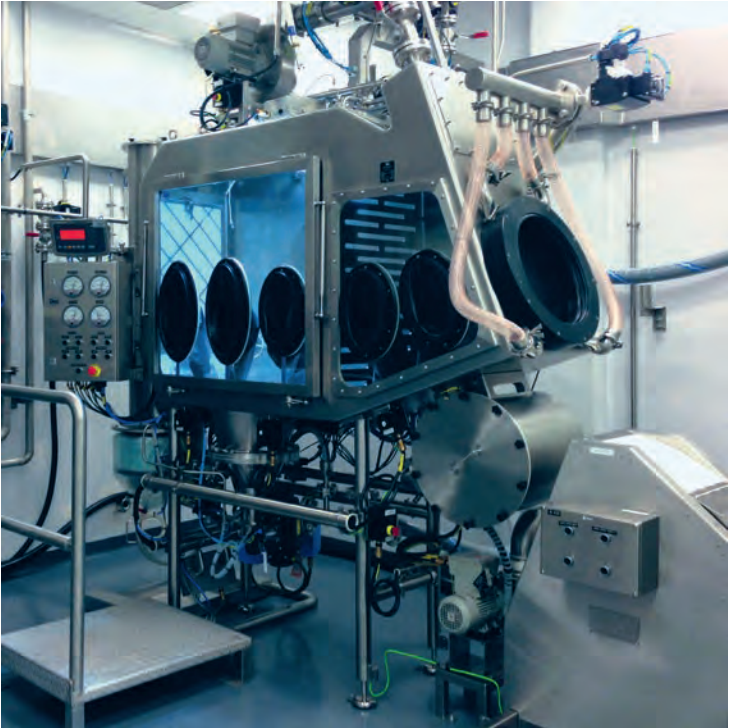
Dec's emptying solutions are diverse and may include various options for process optimization depending on the material properties. Here are a few examples to consider:



Drum Discharge
DCS® Drum Containment System



Drum Discharge
Isotube, preferred choice when discharging lumpy products



Drum & Bag Discharge (patented technology)
Isocharge, hybrid design integrating laminar flow technology with a glove box system

Contained Bulk Handling

Filling

Dec's filling solutions for bags, big bags and drums can be integrated into various processes and are characterized by high dosing accuracy and easy product flow.



Bag & Drum Filling
Continuous Liner System (CLS)

Liquid Handling

Safe handling of hazardous liquids avoiding the use of drum booths or elaborate local exhaust ventilation (LEV) systems. DCS® Liquid is available for filling and and/or emptying applications.



DCS® Liquid

Downflow Booth/Sampling Booth

Providing a clean cGMP environment that ensures operators can carry out sampling, weighing, and dispensing tasks safely and comfortably.



Workbenches/QuadraFlow

Contamination-free controlled working environment for laboratory powder transfer and sampling with interchangeable workbench possibilities to suit your individual application.



High Containment Pack-Off (patented technology)
Filling solution for drums after a process, in this case filterdrying and milling.
Eliminates the need of a clean room.



Downflow booth
with integrated weighing and dispensing equipment

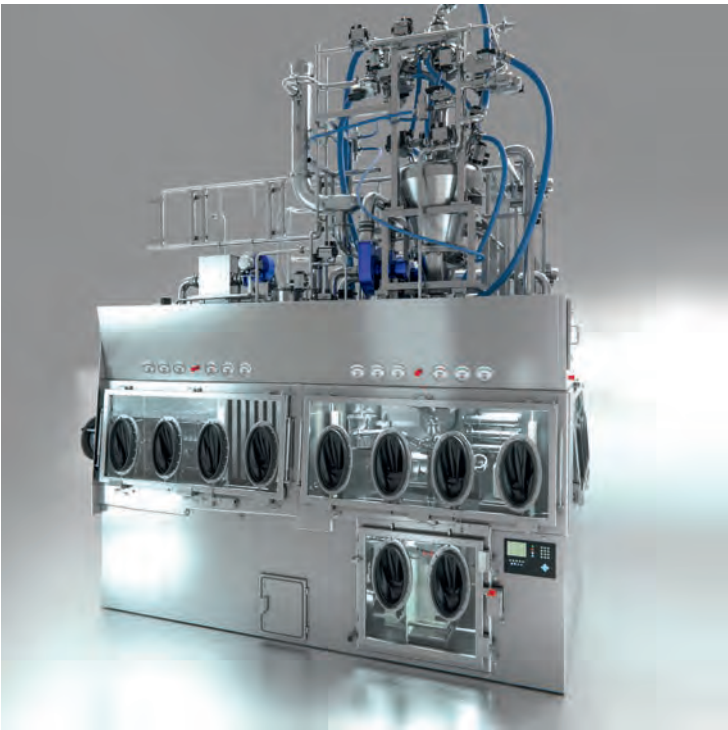


Isolator Technology

Powerful substances necessitate a meticulous hazard and risk-based approach, complemented by advanced engineering methods. Dec's process isolators offer a robust and secure enclosure, ensuring safety throughout any operation.



Flexbile Tablet Press Isolator
designed to provide a controlled environment for handling potent substances



Filter/Tray Dryer Discharge Isolators
PTS Batchmixer® on top of a tray discharge, milling, mixing and pack-off isolator

Isolator Technology



Isolator for Antibody-Drug Conjugates (ADC) targeted therapy manufacturing
Reaction, filtration and Vacuum Drying



IsoPharm - Dec's standard containment solution
with 2, 3 or 4 gloveports



Advanced high-containment large-scale micronization facility
equipped with MC DecJet® jet milling technology, along with state-of-the-art sampling and drum pack-off solutions, containment level 25 ng/m3



Wet Process Chamber
Integrated small scale glass reactors

Isolator Technology

High Containment System
for Milling, Micronizing, Dispensing, Sampling,
Blending, and Post-Conditioning



Micronizing and milling chamber
with MC DecJet® interchangeable
jet mills and mechanical mill



Post-Conditioning Chamber
High temperature and RH conditioning
through-the-wall chamber



Multipurpose chamber
designed for dispensing and Tubular®
blending or post-conditioning at low
temperature on trays with RH control

Sterile/Aseptic Processing

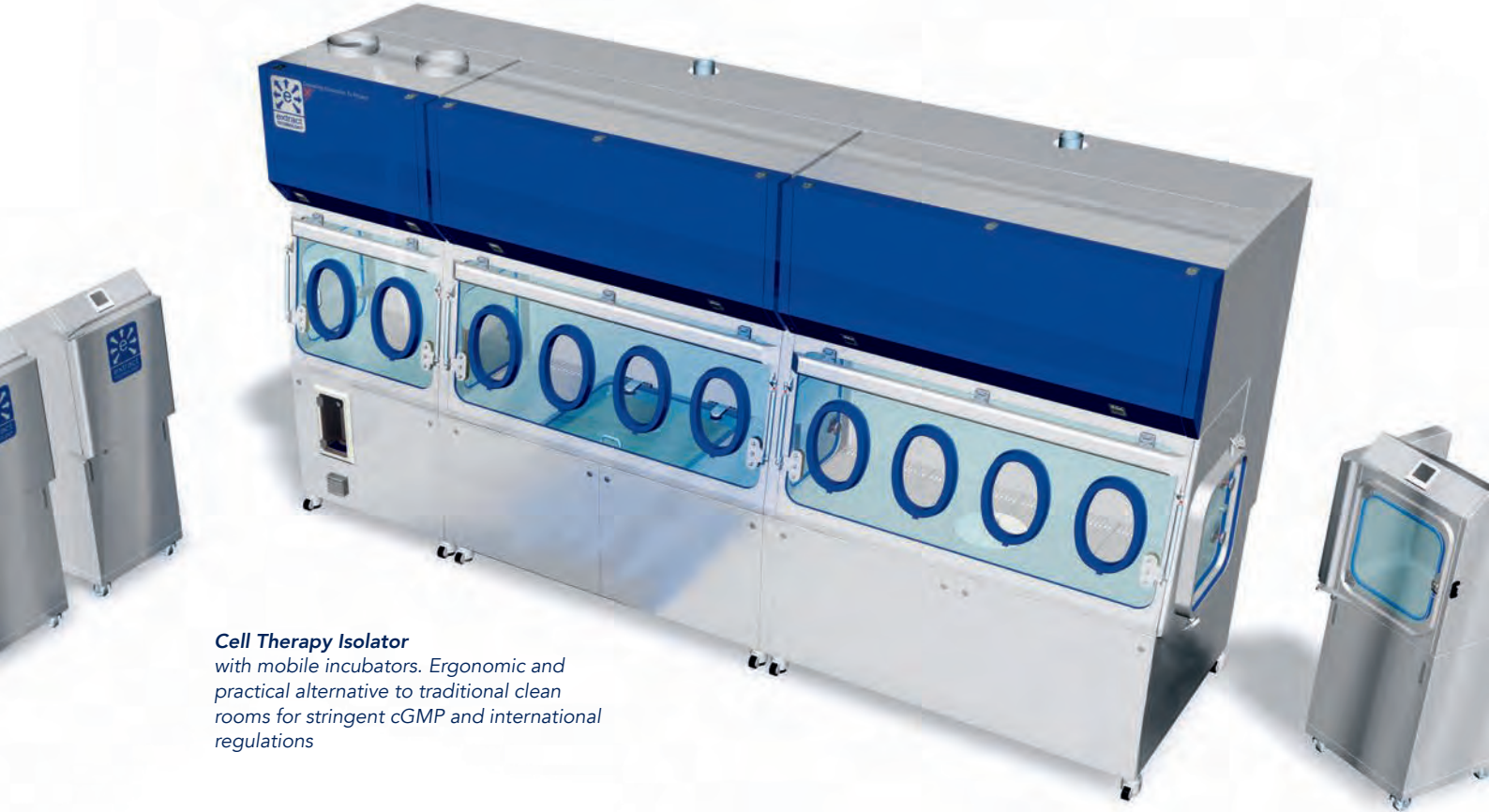
Dec's range of sterile processing solutions encompasses a wide array of aseptic processes, including conveying, milling, blending, and dispensing, as well as integration with aseptic isolators and fill-finish operations. These solutions can be offered individually or as part of a customized aseptic manufacturing system, designed to optimize every stage from the initial product input to the final packaged product.



SteriPharm®- standard aseptic isolator range
with 2 or 4 glove product handling chambers, optional
entry/exit airlocks and HPV decontamination



Modular Sterility Test Isolators (MSTI)
designed to allow sterility testing in an aseptic environment



Cell Therapy Isolator
with mobile incubators. Ergonomic and
practical alternative to traditional clean
rooms for stringent cGMP and international
regulations

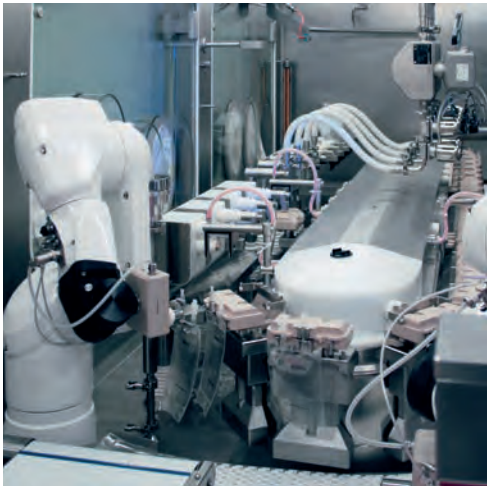
Sterile/Aseptic Processing

Our DecFill® product portfolio offers a comprehensive solution for the aseptic filling of both powders and liquids. This extensive range not only encompasses the filling technologies but also includes the containment systems essential for the fill-finish processes.

Aseptic Filling Line
Fully automated and modular production scale fill-finish operation



Open and Closed RABS
(Restricted Access Barrier System)
to provide a controlled environment for
aseptic processing and sterile drug filling



Contained IV Bag filling line



Vial filling and capping
within a sterile isolator

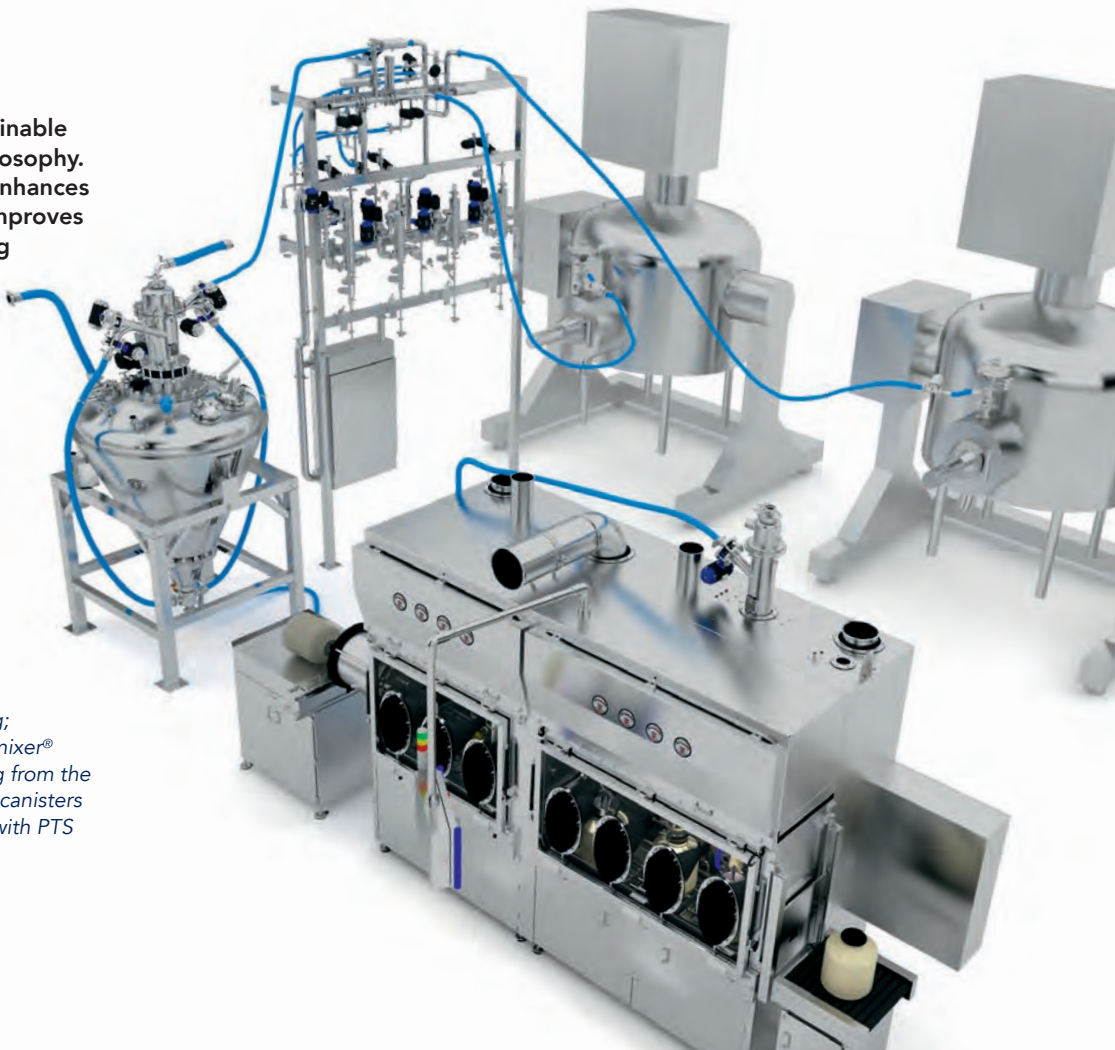
Radiopharmaceutical and Nuclear Containment

We design aseptic radiopharmaceutical isolators, hot cell gloveboxes and nuclear waste treatment systems in accordance to ASME NQA-1 quality standards.



Process Linking

True end-to-end solutions are attainable through Dec's process linking philosophy. This effective approach not only enhances safety and productivity but also improves process efficiency while minimizing the facility's overall footprint.



Aseptic Process
Sterile dryer discharge with inline milling;
automated conveying to the PTS Batchmixer®
blending process; Automated conveying from the
blender to the aseptic filling isolator for canisters
and liners; Transfer between processes with PTS
(aseptic version)



Dec R&D Center of Excellence and In-House Testing

Understanding the importance of operational and regulatory challenges our customers face, Dec has always been committed to improve process efficiency, productivity and safety. Our R&D Center of Excellence with a size of over 2,000 sqm includes state-of-the-art testing equipment to ensure innovation, high performance as well as regulatory compliance.

Mockup

Mock-ups allow engineers to visualize how the technical equipment will look and function before it is built in order to identify any potential problems or flaws that need to be addressed and to ensure high ergonomics.

Technical support, Maintenance, Training & Workshops

At Dec, customer service is an important part of every project. We accompany our customers over the entire life cycle of their project. Dec's support team will provide professional support to any problem worldwide.

All Dec equipment is designed for optimal performance and durability. However, parts of every machine are subject to wear and tear. We offer spare parts and various maintenance models to enhance production efficiency and productivity.

Dec provides various training sessions from workshops on existing workplace equipment to teach operators how to effectively do their job to inhouse seminars or convenient webinars.

Our extensive expertise and commitment to innovation establish us as an essential partner for both multinational corporations and specialized organizations. With a truly global presence, we operate through subsidiaries in Switzerland, Germany, Great Britain, Ireland, the Netherlands, Poland, the USA, India, China and Japan. Recent acquisitions of advanced containment and aseptic solution provider Extract Technology, AWL, a leader in continuous manufacturing solutions, and BAUSCH Germany now operating as DEC Filling Germany, further enhance our capabilities. Additionally, with a network of agents spanning over 60 countries, the Dec Group offers clients unparalleled expertise in process containment technologies coupled with reliable local support.

Dec Worldwide Factories, Sales Offices and Representatives

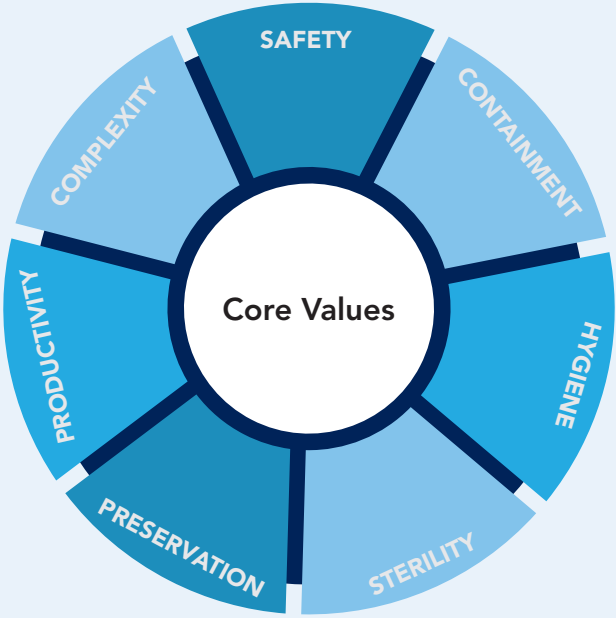


Industries

- Chemicals
- Pharma
- Cosmetics
- Food
- Advanced Materials
- Green Energy

Certificates

- ✓ ISO 9001
- ✓ ISO 14001



10,000+

Delivered Projects Across our Product Divisions

- PHT Powder Handling Technologies
- PST Particle Size Technologies
- FST Filling Solutions Technologies
- CST Containment Solutions Technologies
- CPT Continuous Processing Technologies

Employees

950+

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