

Manufacturing and Packaging Solutions

Food | Pharma | Bio-Tech | cGMP Mfg.



KeyPlants - Modular Facilities

GMP Manufacturing Facilities built using Modular Construction

- Designed and manufactured in factory in Sweden - deployed globally
- Standardized Podular Suites, Box in Box Custom Modules, Complete Modular Facilities (site expansion in US pictured)
- Process equipment can be integrated in modules for plug and play on site

Benefits

- Schedule certainty and ~30% reduction in build time compared to conventional construction
- Consistent quality- as good or better than conventional construction
- ~70% reduction in work on site



Hecht - Powder Handling Systems

Systems for handling of bulk solids/powders

- Filling
- Discharging
- Dosing
- Conveying
- Sampling

Containment up to OEB5(6)

- Single use systems

Automation

Lödige - Powder Processing Solutions

Customized process equipment including:

- Mixing / Blending
- Granulation
- Fluid Bed Drying
- Vacuum Drying
- Coating - Powders & Tablets
- Continuous Processing

Process Development:

- Test center in Paderborn, Germany
- Mixing and vacuum drying capability in US
- Decades of experience developing processes for GMP applications



LAST Technology - Cleaning & Drying

Designed and manufactured near Venice, in North East Italy

Customizable systems for

- Sterilization
- Washing and Disinfection
- Depyrogenation
- Decontamination
- Combined Processes
- Drying

Capmatic- Primary Packaging



Specializes in Primary Packaging

- Filling of Liquids/Creams/Tablets/Powders

Stand-alone packaging systems

- Bottle Unscramblers
- Tablet & Capsule Counters
- Cappers
- Labelers

Monoblocks - Fill, Plug, Cap, Label, etc.

Integrated Lines/Turnkey Packaging Solutions



YOUR COMPLETE
**END OF LINE
SOLUTION**

Consolidated Technologies

End of line packaging solutions

- Cartoners
- Case Packers
- Palletizers (Cobot and Traditional)
- All-in-one solutions

High quality at a competitive price:

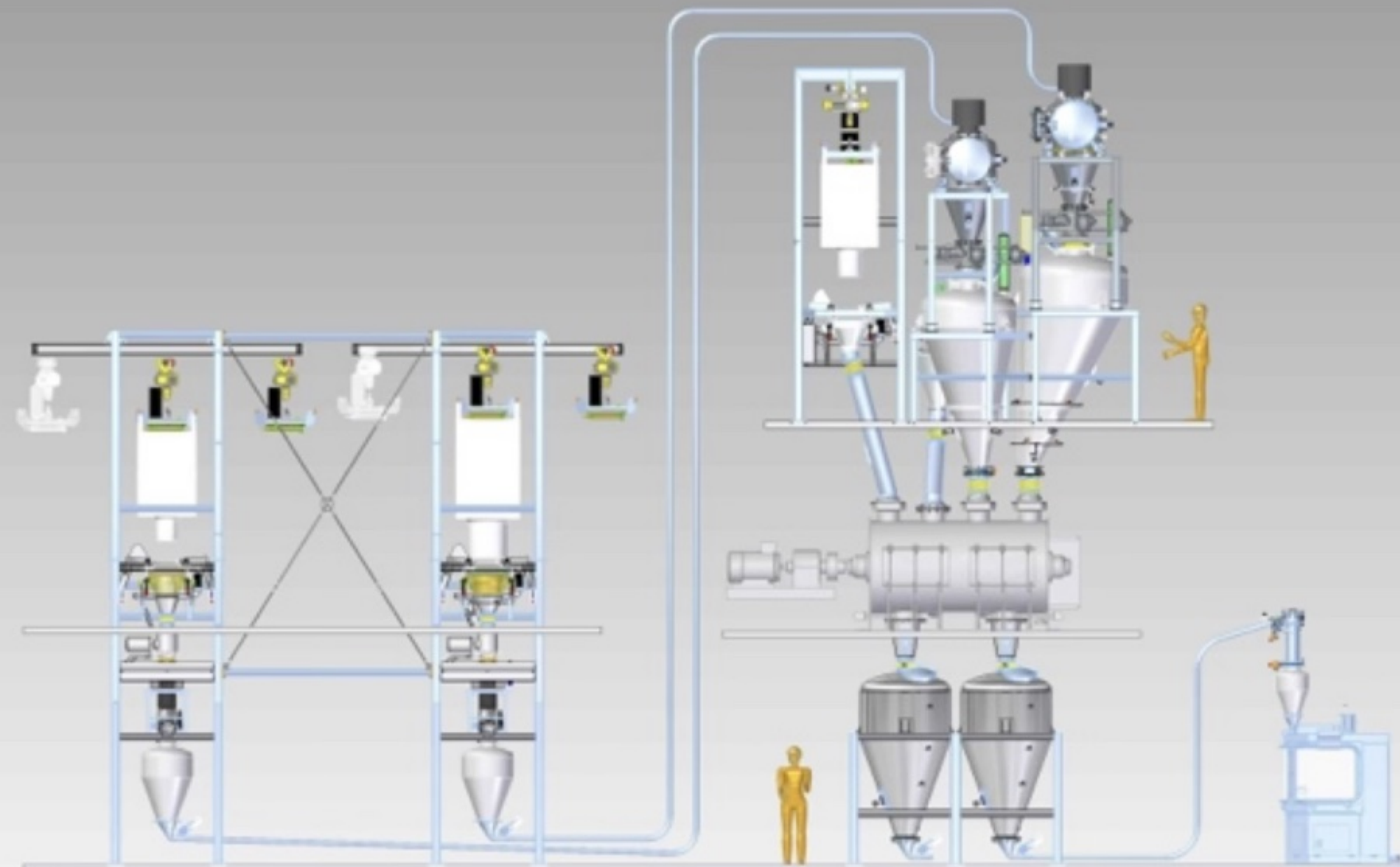
- Stainless steel framework for price of painted mild steel

Spare parts available from Consolidated Technologies or your vendor of choice

CARTONERS • SLEEVERS • CASE PACKERS • PALLETIZERS



Turnkey Solutions



High speed supplement mixing line (US)



Medical device production line (Europe)

Bulk Material Handling & Containment



DISCHARGING



CONVEYING



SAMPLING



DOSING



SINGLE USE
TECHNOLOGY



FILLING



ELEMENTS



COMPONENTS



ESSENTIALS

Protection and Security



Cleaning

Validated cleaning through efficient WIP, CIP or SIP systems is included in the engineering process.



Documentation

Gapless quality monitoring due to documentation during all process steps.



Product safety

Prevention of cross-contamination and contamination by impurities.



Accuracy of fit

Connection of cross-process steps by individual adaptations that fit your requirements.



Ergonomics

The system allows an ergonomic operation.



Approved

The quality and functionality of our systems is confirmed by numerous customer-specific audits.



User and environment protection

Hazardous substances cannot leak. Protection of user and environment.

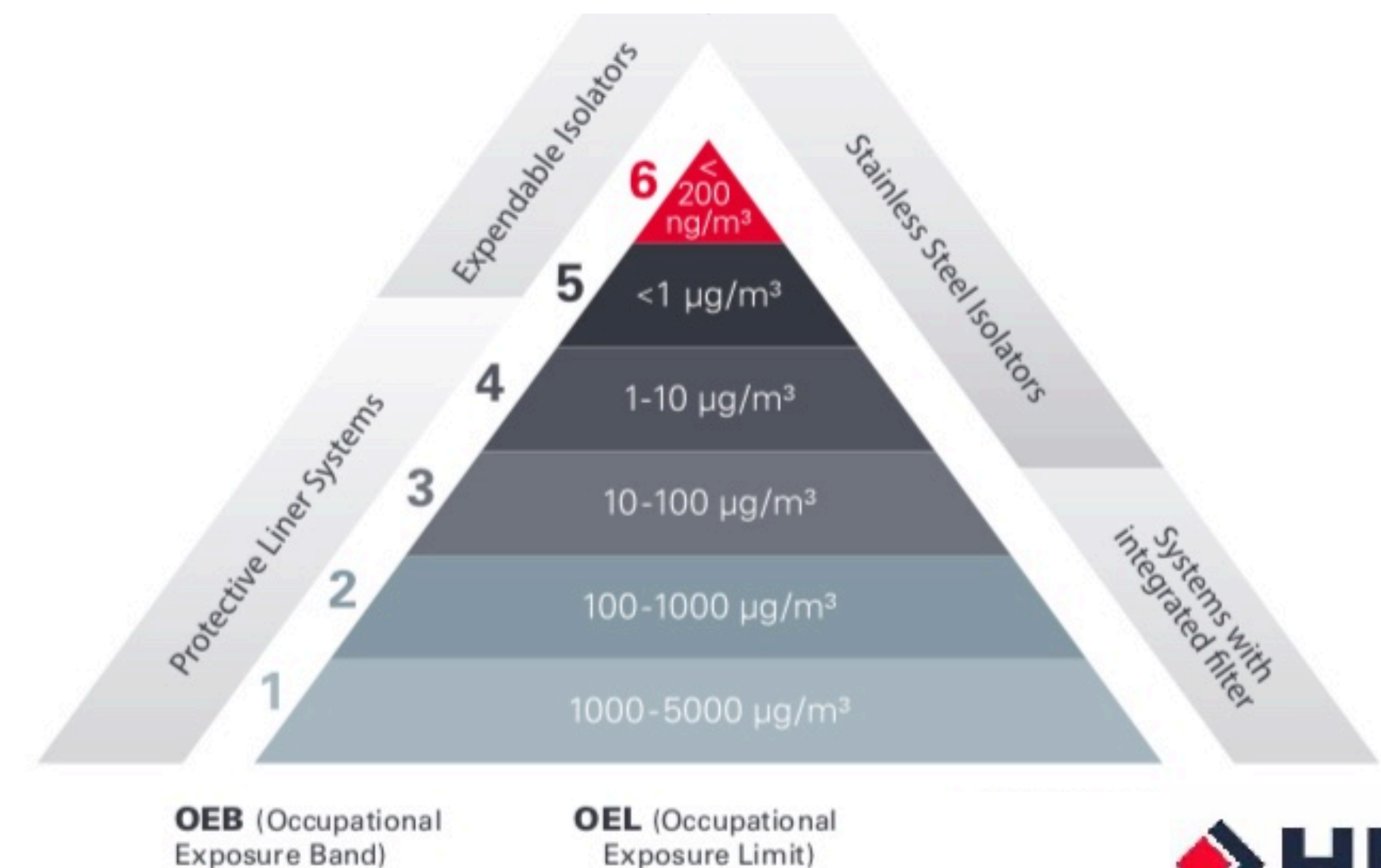


Individualisation

The whole process can be adjusted to your product and production characteristics.

Containment

- Containment up to OEB5(6)
- Customized solutions based on factors such as changeover frequency, level of automation, product characteristics, etc.
- WIP capability to avoid cross contamination, product contamination, and product spread
- Focus on primary protection for employee ergonomics and safety



Example: Powder Handling Systems



- (1) FIBC Sack Discharging
- (2) Drum Discharging
- (3) Vacuum Conveying
- (4) FIBC Filling System
- (5) FIBC Discharging
- (6) Vacuum Conveying
- (7) Drum Filling

FIBC & IBC Discharging

- Highly configurable FIBC/IBC Discharge stations
- Wide variety of connection systems suitable for different levels of containment and products
- Materials, surface finish, and surface treatments/coatings according to customer needs including stainless, galvanized, or painted steel
- Options for massaging and vibration for poor flowing products
- High degree of customization to fit customer facilities and processes
- Loading systems utilizing chain hoists and stand alone lifting columns



Small Container Discharging

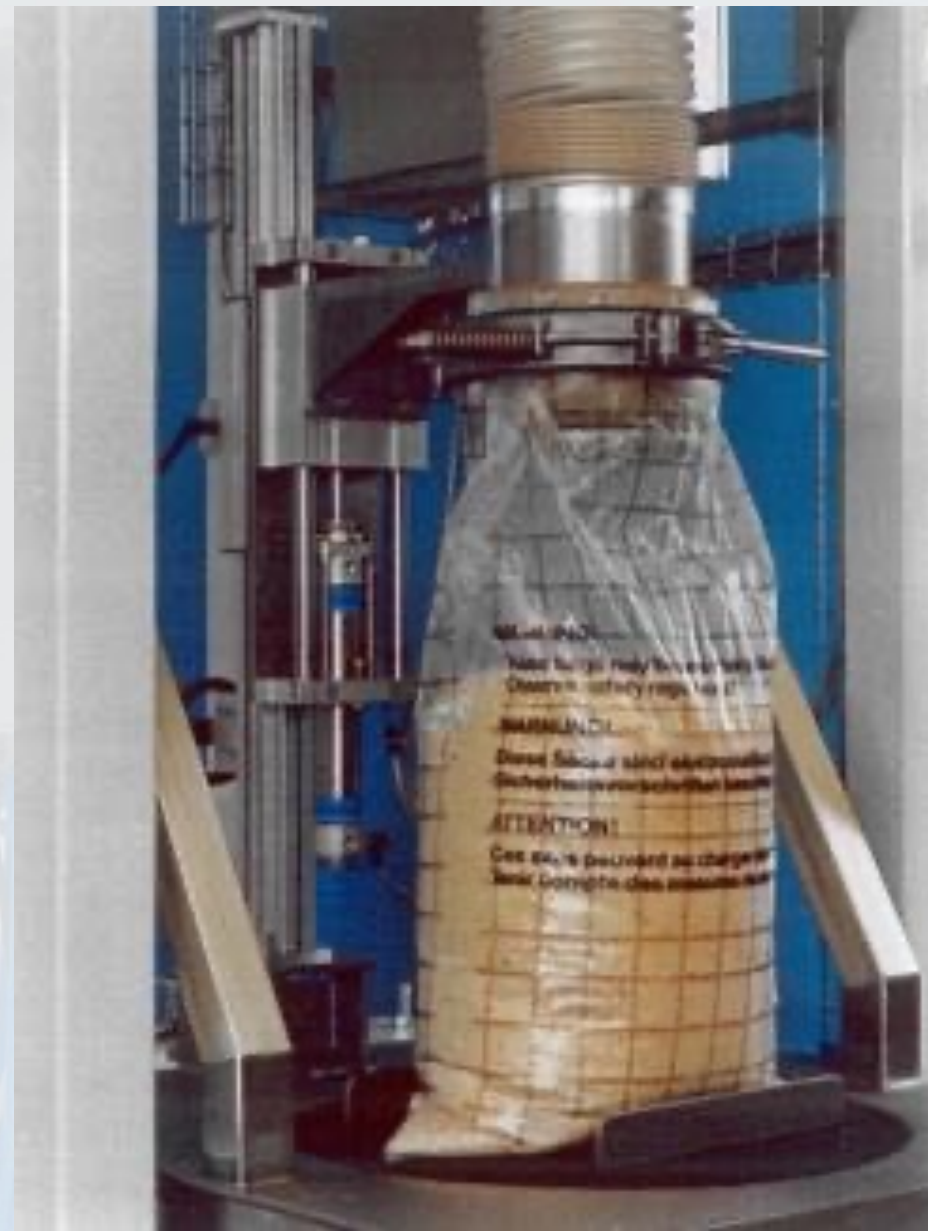
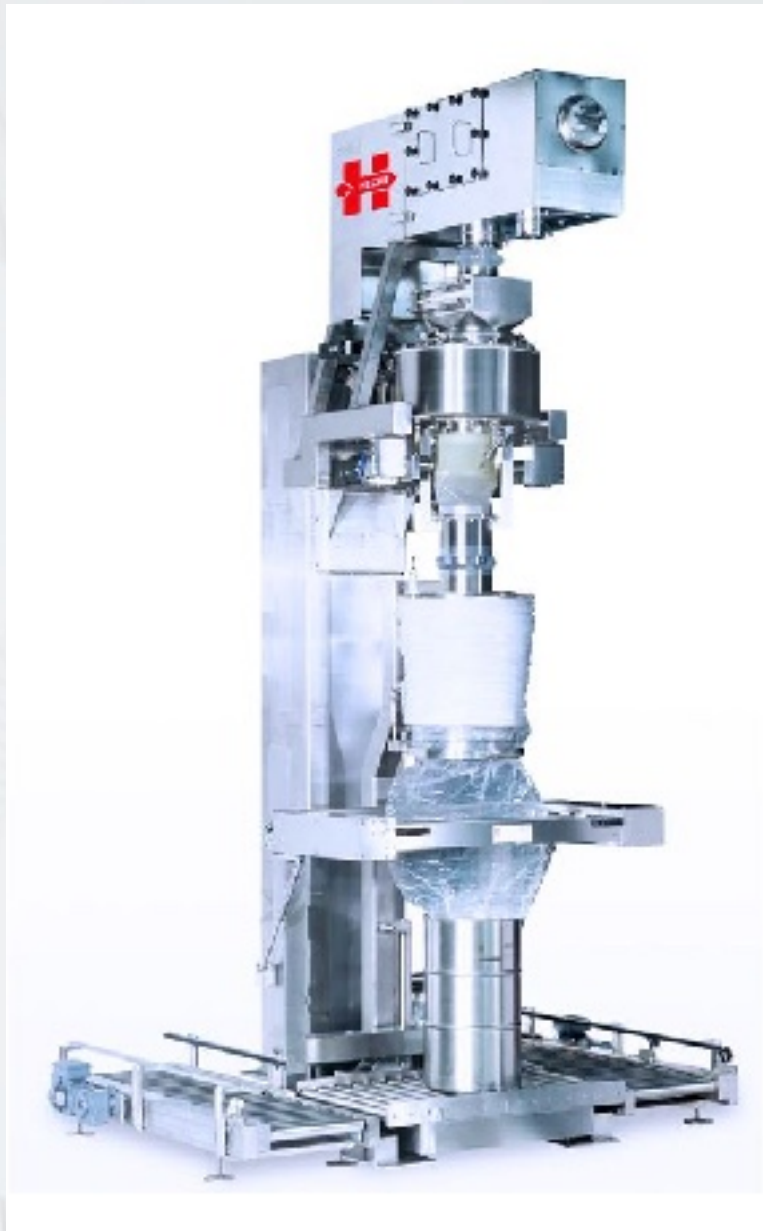
- Discharging stations for:
 - Sacks/Bags
 - Drums
 - Customizable for product, process, and level of containment required
- Solutions with containment up to OEB 5 with emphasis on ease of use for operator
- Can be combined with inline screening, metal detection, vacuum conveying, etc.
- Tailored to unique customer processes and facilities

FIBC and IBC Filling

- A range of connection systems may be used depending on required containment
- Filling from multiple processes and containers possible
- Filled FIBCs and IBCs can be weighed during fill for accurate dosing
- Hanging solutions with overhead scales available to enable cleaning below
- Solutions to manually or automatically adjust to accept different FIBC sizes

Drum, Bag, and Carton Filling

- All common filling heads can be used depending on customer needs
- Continuous liner systems available as option
- Weighing, dosing, and sampling can be integrated
- Can be fed directly from discharging units such as IBCs/FIBCs, blenders, dryers, etc. or through a vacuum conveyor system





Dosing

Multiple options to accurately dose to and from bulk containers including:

- Dosing Screw
- Rotary Valve
- Flexible Dosing System
- Vibratory Butterfly Valve

Can dose with gain in weight or loss in weight including:

- Loss in weight w/ discharging station on load cells
- Gain in weight with process equipment or filling station on load cells
- Intermediate hoppers on load cells for more precise increments



Sampling

Sampling available in different styles including:

- Screw sampler
- Vacuum sampler
- Containment sampling stick
- Spoon sampler
- Containment sampling system
- Slide sampler

Containment versions available

Solutions for in process sampling and sampling from bulk containers

Some factors to select sampling method:

- Sampling frequency, containment, and product itself

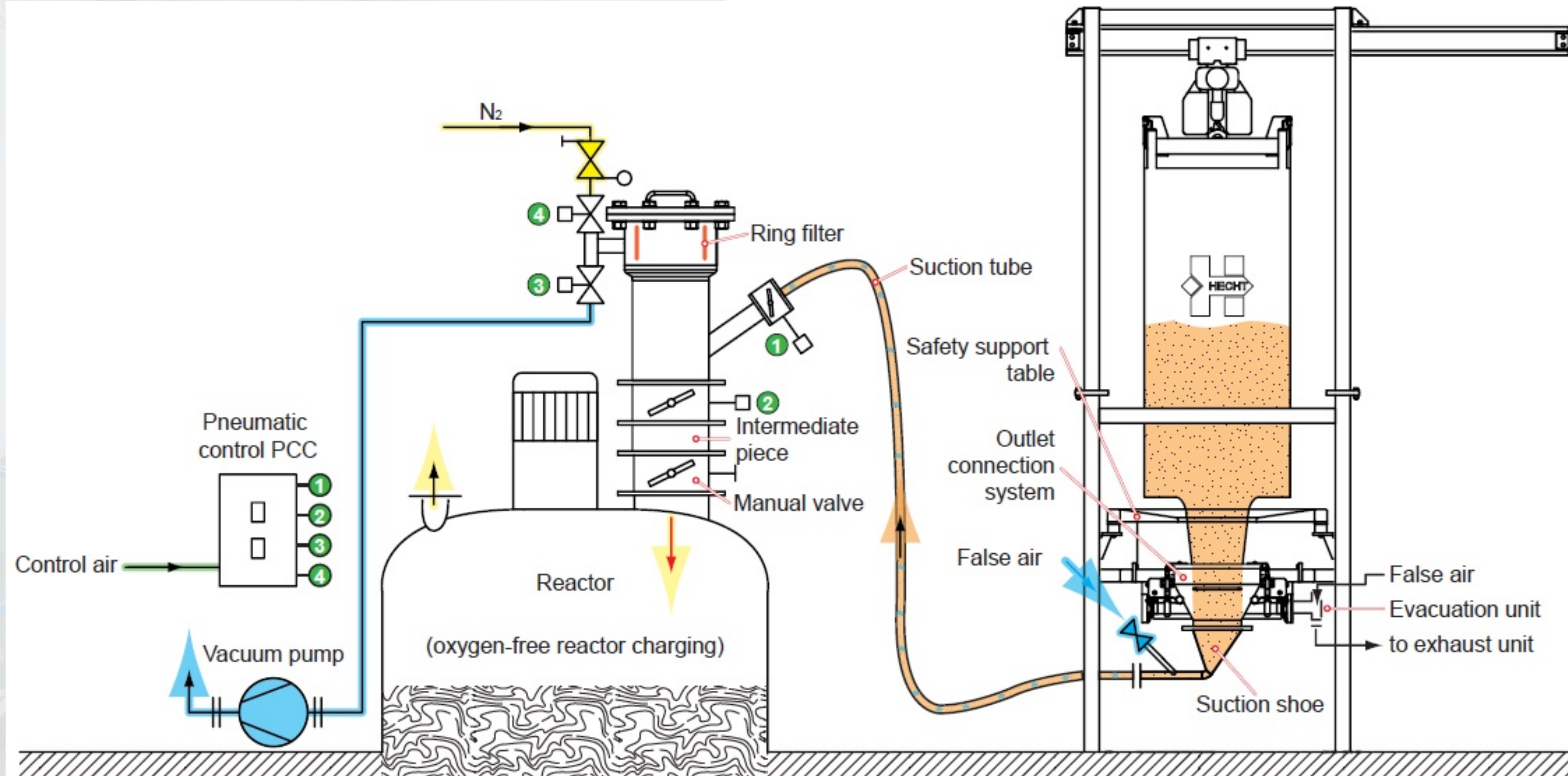
The Pro Clean Conveyor

Benefits

- Gentle dense phase conveying
- High flow rate
- Wide range of system sizes and configurations
- Sight glass assists optimal setting of operating parameters
- Fewer and easy filter replacements for less interruption of production
- Continuous conveying is possible with double filter



PCC Example Application



Example: Single Use Systems

- Suitable for filling, emptying, weighing, sampling and customized product manipulation
- Dispose of contaminated isolator to avoid costly cleaning
- Cost reduction of up to 40% compared to traditional isolators
- Customizable for a wide variety of applications
- Up to OEB5
- Connection ports for different bins such as drums, sacks, and cartons.

Thank you!

