

## Advance by Technology ...



Sophisticated engineering leads to superior flexibility and performance in terms of efficiency, dwell time and quality control.

In response to customer demand for solutions beyond the tablet press, Pharma Technology offers peripheral devices as integrated solutions. Its state-of-the-art vertical dedusters and accessories provide great flexibility, enhanced output, and superior dedusting quality.



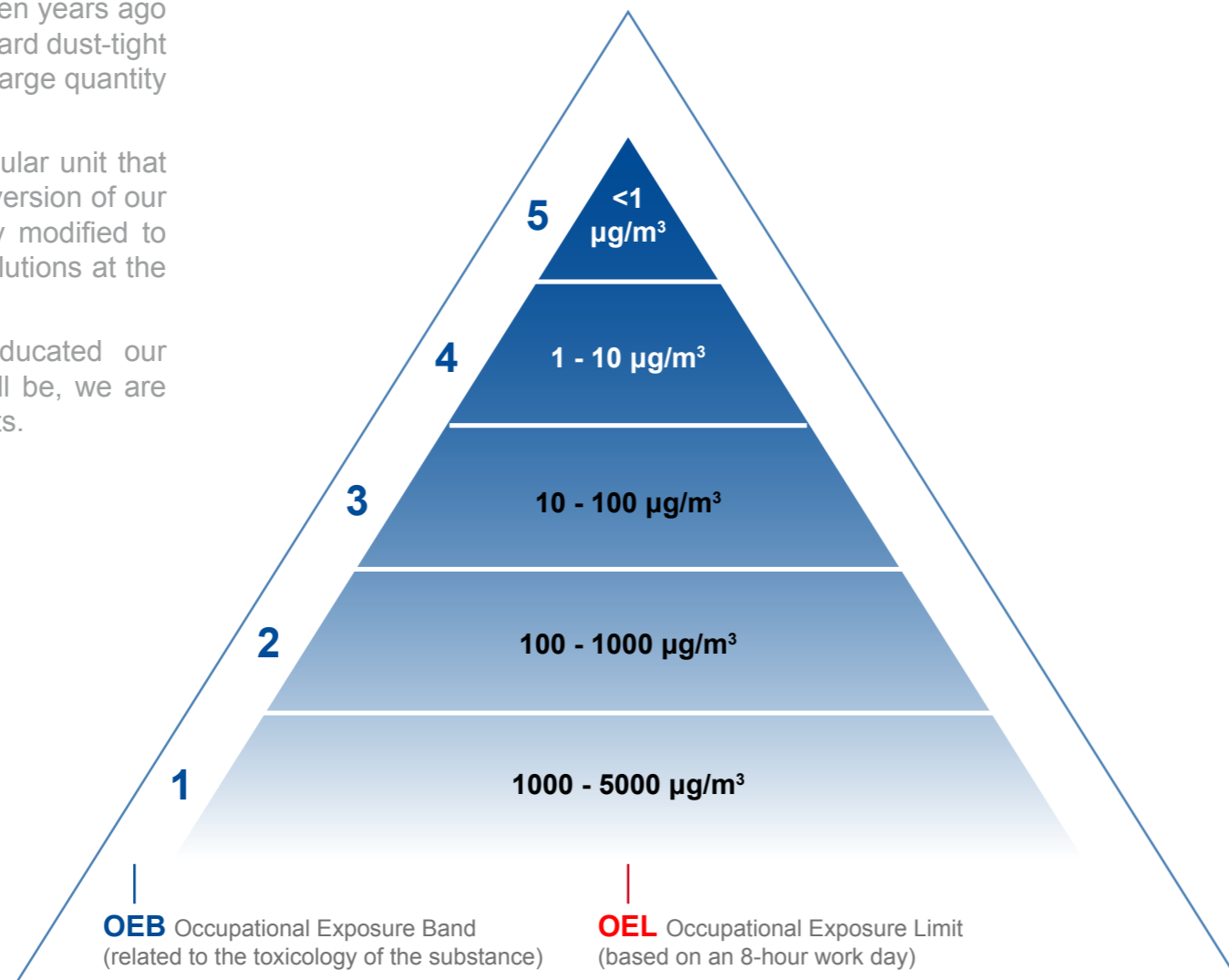
# Our **CONTAINMENT** philosophy ...

For nearly 25 years, Pharma Technology has been an innovative company responsive to industry demand.

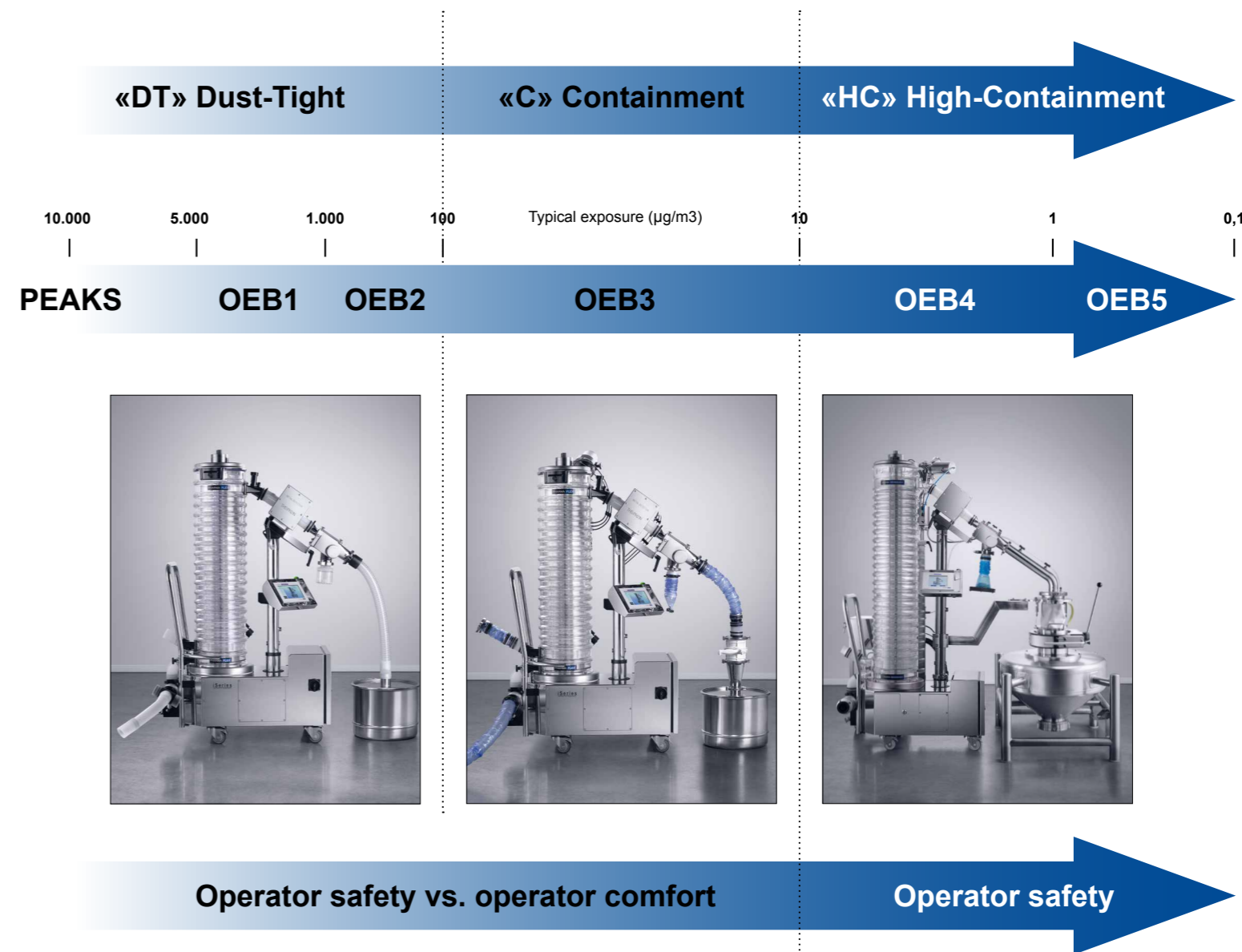
Because operator protection is so important to us, ten years ago we created a unique, pioneering segmentable standard dust-tight deduster. In the last five years, we have installed a large quantity of OEB high-containment units around the globe.

We are proud to introduce our new iSeries, a modular unit that reflects our commitment to containment. This new version of our deduster is standard dust-tight, and can be easily modified to OEB3 containment and OEB5 high-containment solutions at the customer's request.

Because we strongly believe that the more educated our customers are, the greater our mutual success will be, we are pleased to offer training along with all of our products.



The iSeries frame (the 'i' standing for 'innovative') represents a new generation of modular units that can be customized according to customer needs. The frame is pre-equipped to accommodate a variety of additional options, including: diverters, sampling, test sample inserters, auto-check, IPC testers, and containment, high containment, and washable features.





## PFC iSeries DT

### SEGMENTABLE POLYMER TABLET DEDUSTER

#### DUST-TIGHT

#### METAL DETECTOR

Metal check software emulation



Metal check dust-tight connectivity



#### PFC iSeries dust-tight

The Pharma Flex (PF) range is based on a new generation of segmented, modular spiral molded in Tritan Copolyester. Each of the spiral segments can be removed individually for easy dismantling, cleaning, and validation, has a high degree of robustness, and is fully transparent. The clear segments provide a direct view to the tablets throughout the process and the modular system allows for adjustable height gain. Additional segments can be added in increments of five to increase the machine's height and extend its shaft. Five different conveying heights are available from 500 mm to 1500 mm.

This unit dedusts tablets ranging in size from 4 mm to 25 mm at high speed.

Enlarged circumferential dust extraction channels and central air jets on the tablets improve dedusting efficiency.

A self-regulating vibrating base, with accelerometer, makes it unnecessary to adjust gaps of springs on the unit's base when changing the deduster's tower height, or when transitioning from one product to another.

Utmost care has been taken to simplify the design in order to reduce the amount of parts to be assembled and disassembled, and to eliminate the need for tooling.

Several metal detector brands are available, such as LOCK, CEIA or SAFELINE.

The PFC iSeries generation includes dust-tight cover features to reduce operator exposure to the product, and to dust contamination in the production room. Dust-tight systems are modularly upgradable to containment and high-containment washable solutions.

#### Key benefits

- Dust-tight concept
- Excellent dedusting and deburring capacity thanks to a patented air jet & vacuum concept
- Modular assembly composed of segments of 55 x Ø 306 mm
- Patented round throughput chute for metal check
- Standard patented dust-tight feature for all equipment without use of tri-clamp collar
- Fast changeover in less than 10 minutes with exchangeable deduster module concept
- 360° product viewing during process
- Extremely compact footprint
- Extremely low noise emission < 68dB
- FDA-approved robust material, dismantlable components are max.1 kg
- One touch screen HMI with automatic adjustment of the vibration with sensor
- Easy assembly and disassembly
- Easy to clean, maintain and service
- Optional automated auto-check control system for metal detector, tablet diverter, and IPC tester
- Availability of retrofit kit for "C" containment OEB3 & "HC" high-containment OEB5 washable

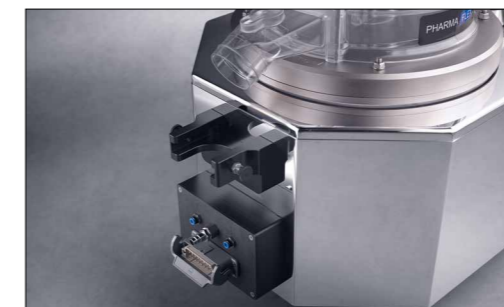
Polymer modular spiral



Optional 4-P tester



Removable dust extraction chute



Flexible orientation 90° left



Flexible orientation straight





# PFC iSeries C

## SEGMENTABLE POLYMER TABLET DEDUSTER

### CONTAINMENT ≤ OEB3

### METAL DETECTOR

#### PFC iSeries Containment

When manufacturing or planning to manufacture potent drugs, a containment unit is required to protect the operator and his environment.

Our PFC iSeries C machines ensure an OEB3 containment level.

In this unique patented metal check system, our Flex Connect ensures a completely closed dust-tight transfer from the deduster to the drum, without using a tri-clamp solution.

An advanced enables the introduction of test samples inside the metal check head without any contact between the product and the operator.

Continuous pressure monitoring verifies that the equipment remains under negative pressure at all times, preventing dust particles from escaping into the production environment. If a problem is detected, the system automatically changes the valves status to create a safe environment for the operator.

The double barrier solution, using our patented Flex Connect pipe in conjunction with a double LDPE barrier and Clip & Cut, allows simple and contained disconnection of the peripheral process equipment. The peripheral process equipment can be cleaned in a separate wash room, enabling clean corridors.

Containment systems are modularly upgradable to high-containment washable solutions.

Clip & Cut OEB3 disconnection



Fail safe air inlet



Continuous negative pressure monitoring



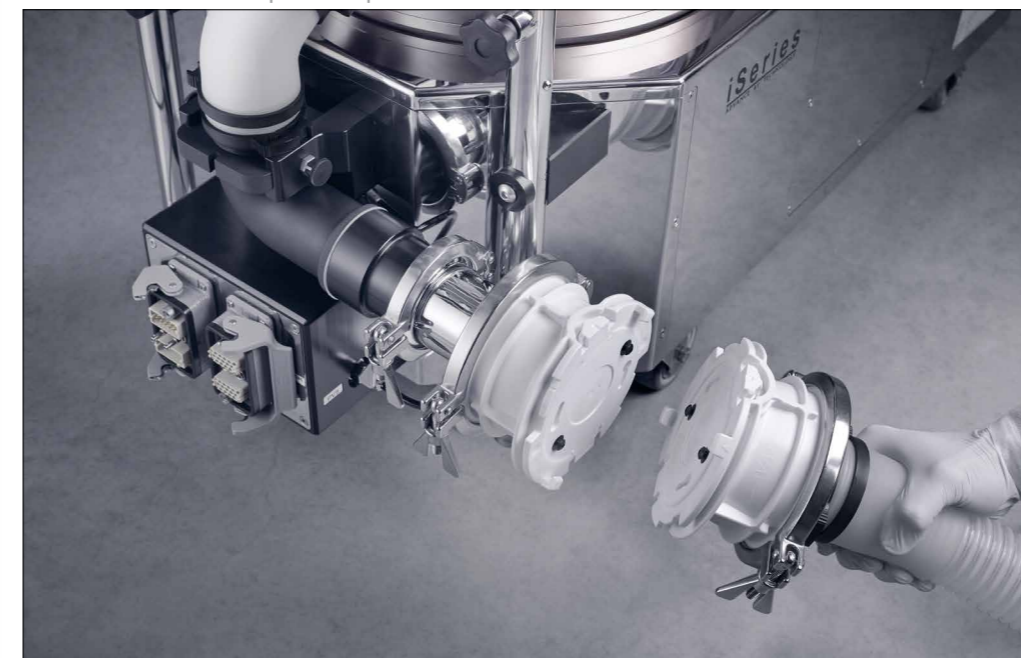
#### Key benefits

- Excellent dedusting and deburring capacity thanks to a patented air jet and vacuum concept
- Patented round throughput chute for metal check
- OEB3-proved concept for toxic products
- Continuous pressure monitoring and alarms
- Safe-fail security valve to avoid operator and room contamination in case of emergency
- Manual test samples inserting system for metal check
- Optional automated auto-check control system for metal detector, tablet diverter, and IPC tester
- Optional IPC 2-parameter or 4-parameter tester in OEB3 execution
- IPC quarantine hopper concept, tablet diverter
- Availability of retrofit kit for high-containment OEB5 and washable
- Easy assembly and disassembly
- Easy to clean, maintain and service

Test samples inserting device



Optional Alpha Beta valves for vacuum disconnection



Optional Auto-Check for metal detector





## IPC 2- or 4-Parameter Tablet Tester

FOR iSERIES DT AND C ≤ OEB3

The frame of our iSeries range is pre-equipped to integrate a tester.

Short for “in-process control,” the IPC is an innovative machine that affords unparalleled flexibility, while meeting superior standards, for output and quality of dedusting and high-precision, in-process control testing for measuring the physical parameters of the product.

The IPC allows you to automatically take and monitor samples from your production line, based on 2 parameters (weight and thickness) or 4 parameters (weight, thickness, diameter and hardness).

The results of the testing can be used to regulate your tablet press in an OEM configuration.

Software meets CFR 21 Part 11 requirements in terms of data protection and controls for identification codes and passwords.

**When not integrated in a tablet press HMI,** the system allows you to monitor a simpler or older tablet press to generate notification of any product specification violations, and to automatically create a quality batch report.

Data can be safely collected on a USB Stick.

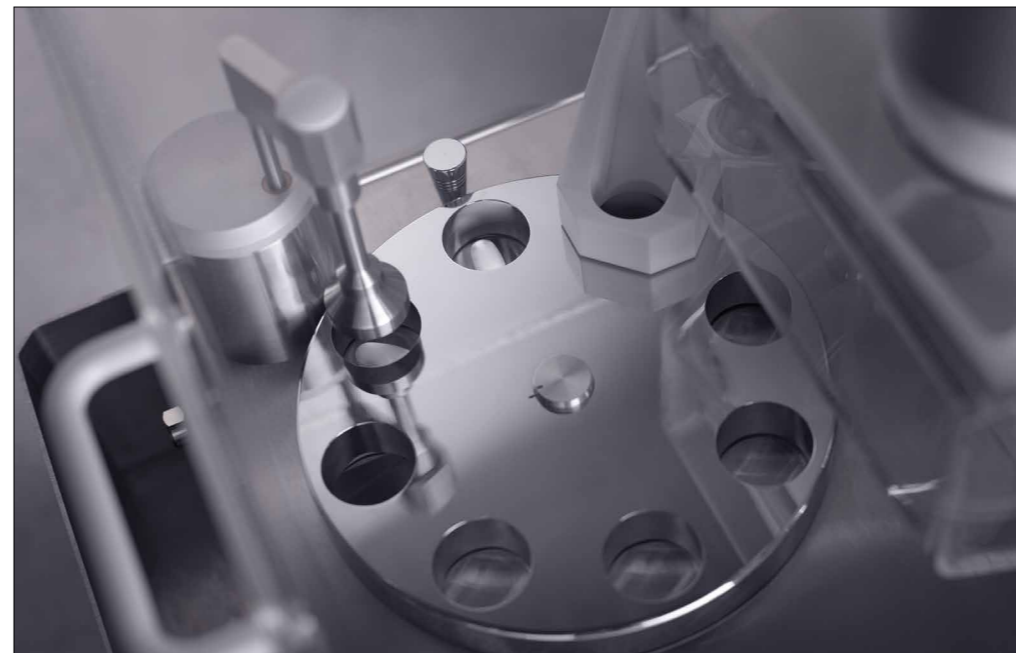
Dust-Tight sampling gate



Dust-Tight tablet transfer



2-P tester



2-parameter IPC tester (weight & thickness for tablets or weight & length for capsules)

4-P tester



4-parameter IPC tester (weight - thickness - diameter - hardness)

Perforated area to avoid particles on the weightcell



### Key benefits

- New tester design, which includes a clear separation between product area and mechanical/electrical parts, increases safety during maintenance operations
- DT & C ≤ OEB3 industrial design for toxic products
- Innovative DT & C ≤ OEB3 solution for tablet conveying and handling
- New stable weighcell is less sensitive to the production environment
- Extremely quiet testing environment with no air turbulence
- Reliable and quick measurement
- Software follows CFR 21 Part 11 guidance with reports gathering individual value, statistic and production tracking
- Data can be extracted in Excel or PDF
- Storage on USB stick, via Ethernet and bluetooth printer
- Local HMI display for parameters change, quick test review, and calibration
- Easy cleaning, validation and calibration
- Oval, square and rectangular shapes centering device



## PFC iSeries HC

### SEGMENTABLE POLYMER TABLET DEDUSTER

#### HIGH-CONTAINMENT ≤ OEB5 WASHABLE

#### METAL DETECTOR

Polymer washable spiral



#### PFC iSeries Hi-Containment washable

When manufacturing or planning to manufacture high potency drugs, a high-containment unit is required to protect the operator and his environment. We offer a complete end-of-the-line concept with all required high-containment connectivities.

Our PFC iSeries HC washable units ensure an OEB5 high-containment level.

This solution permits the washing of equipment at the end of the production batch. During the flooding of the deduster, vibration is used to remove sticking powder from the surfaces. This guarantees that all volatile dust is removed before dismantling the equipment.

A pressure decay system permits verification of the tightness of the unit before starting manufacturing. This self-test system vacuums the unit and verifies that there is no leakage in the entire system.

Continuous pressure monitoring verifies that the equipment remains under negative pressure at all times, preventing dust particles from escaping into the production environment. If a problem is detected, the system will automatically change the valves status to create a safe environment for the operator.

Washable systems exist in two versions:

In the HC WIP version (Washing In Place; also called Washing in Line), the deduster is washed in the production room and can be linked with the tablet press or capsule filling machine. The system remains connected and closed between the production and the washing process.

In the HC WOL version (Washing Off Line), the deduster should be disconnected from the production machine in a high-containment fashion, and washed in a separate washing room. In this instance, since the WOL trolley remains in the washing room, it can handle several machines, resulting in a cost-efficient solution.

A unique patented concept called Auto-Check enables testing the metal detector at regular intervals.

#### Key benefits

- Excellent dedusting and deburring capacity due to a patented air jet and vacuum concept
- A global high-containment OEB5 proved concept that includes all connectivity upstream/downstream with other equipment
- Sealing integrated in the machine parts
- Pressure decay hardware and software to detect leakage after assembly, and before start of manufacturing high potency products
- Continuous pressure monitoring and alarms
- Safe-fail security valve to avoid operator and room contamination in case of emergency
- Patented Clip & Cut OEB5 sampling system
- Continuous testing of the metal detector at regular intervals thanks to the auto-check
- WIP/WOL mobile washing station
- Easy assembly and disassembly
- Easy to clean, maintain and service

Fail safe fresh air inlet with Hepa filter



WIP/WOL Mobile Washing Station



Buffering system for 4-P tester



WIP/WOL Mobile Washing Station



4-P tester OEB5 washable



## PHARMA TECHNOLOGY

ALL OUR MACHINES ARE ALSO AVAILABLE IN  
**STAINLESS STEEL 316L**

Modular Stainless Steel Spiral



Our iSeries range is also available in stainless steel. These Pharma Technology (PT) units are based on a segmented 316L stainless steel spiral, with stackable 275 mm modules that can be removed individually for easy dismantling, cleaning, and validation.

This spiral offers a high degree of robustness. The cover is fully transparent, and clear segments in the tower provide a direct view to tablets throughout the process.

Utmost care has been taken to simplify the design in order to reduce the amount of parts to be assembled /disassembled, and to eliminate the need for tooling.

This modular system also allows for adjustable height gain. Additional modules can be added, in increments of five, to increase the machine's height and extend its shaft. Five different conveying heights are available, from 500 mm to 1250 mm.

This unit can handle tablets or capsules of any size at a very high speed. The stainless steel spiral is mainly used for effervescent and micro-tablets, as dust extraction perforation holes can be customized per customer request.

Enlarged circumferential dust extraction channels and central air jets on the tablets improve dedusting efficiency.

A self-regulating vibrating base, with accelerometer, makes it unnecessary to adjust gaps of springs on the unit's base when changing the deduster's tower height, or when transitioning from one product to another.

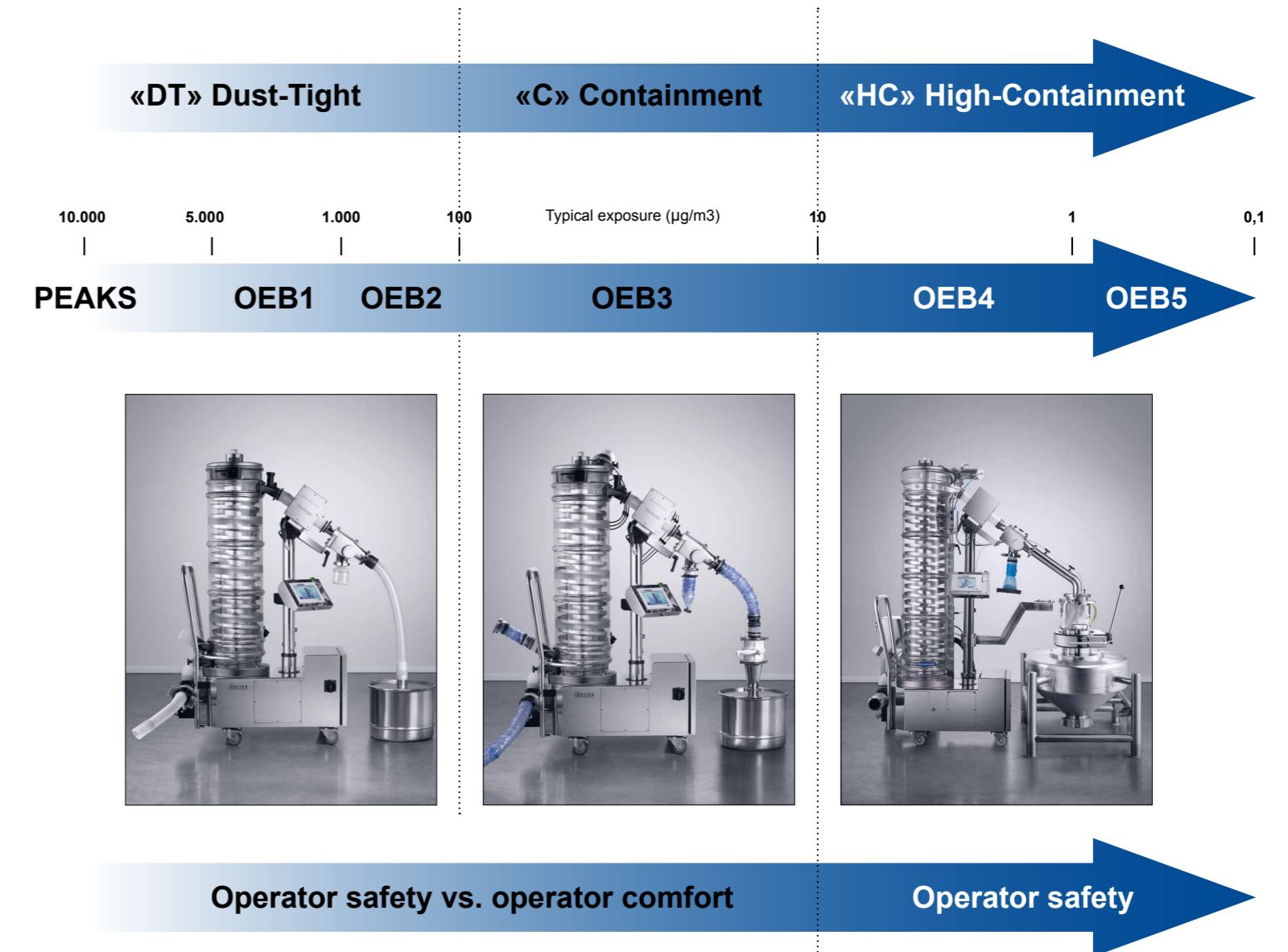
Several metal detector brands are available, such as LOCK, CEIA or SAFELINE.

The PTC iSeries generation includes dust-tight cover features to reduce operator exposure to the product and to dust contamination in the production room. Dust-tight systems are modularly upgradable to containment and high-containment washable solutions.



**iSeries**  
ADVANCE BY TECHNOLOGY

## PHARMA TECHNOLOGY



# Options for iSeries Unit

## FLEX CONNECT EASY & SAFE DUST-TIGHT CONNECTION

Flex Connect is an FDA-approved silicone pipe that enables quick and easy connection between process equipment without using a tri-clamp. Due to its flexible design, Flex Connect adapts to any tablet press.

Flex Connect creates a dust-tight connectivity and can be used in high-containment and washable situations with additional quick release collars.

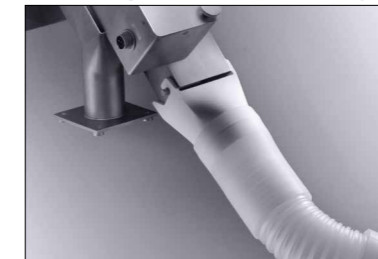
Its flexibility helps connect misaligned equipment, and addresses thermal expansion and vibration between pipes and equipment.

With a patented design that helps prevent product jams in the funnel, it can be used for tablets, capsules, or powder transfers.

Dust-tight Flex Connect



Dust-tight flexible connectivity



Dust-tight Flex Connect buffer



Example of OEB3 sampling gate with Flex Connect connection



PATENT  
PENDING

## AUTO-CHECK

### AUTOMATIC TESTING SYSTEM FOR METAL DETECTOR

The Auto-Check system automatically tests the functionality of your metal check process. The system inserts the three test pieces (stainless steel, ferrous, and non-ferrous) into the metal check head at regularly specified time intervals.

Since the test tablets go through the metal check head in a separate chamber (not in contact with the product), there is no risk of product contamination with a non-detected test piece.

The Auto-Check is an especially valuable tool for companies producing high potency drugs who are looking for automated process reporting.



## CLIP & CUT

### EASY & SAFE OEB5 SAMPLING



Easy to re-open



The Clip & Cut is a technology used to disconnect products from equipment, or separate two parts of equipment, in a containment, or high-containment setting.

The Clip & Cut is designed to avoid using sealing tools, and can be used to take samples or rejected products.

The Clip & Cut allows reopening a bag without tooling, as well as reconnecting to the drain in a washable application with a bag in/bag out concept.



Samples are inside the continuous liner bag



A double clip allows disconnection by collapsing the liner



The liner film retracts in the clips when cutting



The tight bag can be easily removed



# D4

## 4-WAY DIVERTER

The Diverter D4 is used to distribute the product into a maximum of 4 drums/containers according to amount or weight.

The distributor is highly flexible, as the number of containers (up to 4) to be filled varies, as does the dropping height of the tablets and capsules.

The diverter allows less interference from the operators inside the production room, which reduces bi-cross contamination between operators and products. It can be connected to any deduster/polisher, whether stand-alone or a combined unit.

The D4 is dust-tight. Containment and high-containment washable versions are available upon request. A jam sensor is also available.



# EPS

## EURO PALLET SYSTEM

Flex Connect Buffering concept for diverter



The Euro Pallet System (EPS) enables distribution of the product into different drums/containers according to amount or weight.

The distributor is highly flexible, as the number of containers (up to 12) to be filled varies, as does the dropping height of the tablets and capsules.

The EPS unit allows less contact with operators inside the production room, which reduces cross contamination between operators and products. The U-frame of the complete unit incorporates hydraulic cylinders for height adjustment, saving space on the ground.

The drum loading center is dust-tight. A containment version is available upon request. A jam sensor is also available.





Tester with buffering quarantine concept and 4-P IPC tablet tester

## BUFFER

### QUARANTINE BUFFERING HOPPER



4-P IPC tablet tester

A quarantine buffering hopper can be installed between the tablet press and a large container on our iSeries machines to ensure the quality of your products.

A sampling gate delivers samples from the quarantine hopper to the tester. This sequence happens at least once in the buffer.

The tester will approve the quality of the products. If the product conforms to the specs, they are released into the good product container by an automatic valve mechanism. If the products do not conform, the user will get an alarm and the small buffered quantity of products will be rejected.

An individual report, as well as a batch report, can be exported in Excel or PDF format and can then be analyzed and printed.

Software follows CFR21 part 11 guidance.



Quarantine buffering hopper

**About us:**

Pharma Technology S.A., a global leader in tablet and capsule handling equipment since 1993, specializes in dedusting, polishing, metal detection, and in-process control (weight, thickness, diameter, and hardness) for pharmaceutical manufacturing lines.

Thanks to a close and long-standing relationship with the pharmaceutical industry, Pharma Technology engineering has developed complete tablet and capsule handling solutions tailored to the specific requirements of oral solid dose (OSD) pharmaceutical companies. We provide a complete range of handling systems for tablets and capsules, on-site service, and test rooms for customer trials and Factory Acceptance Tests.

In 2008, Pharma Technology S.A. launched the Pharma Flex model -- a groundbreaking hi-tech polymer segmentable deduster -- that is ideally suited for easy cleaning. This new concept has revolutionized the tablet dedusting world by providing greatly enhanced dedusting/deburring performance.

In addition to providing equipment for a variety of tablet presses and capsule filling machinery, Pharma Technology has developed ancillary and connectivity systems.

All machines and equipment provided by Pharma Technology S.A. come with training, engineering and maintenance services to ensure successful factory integration and continued product performance.

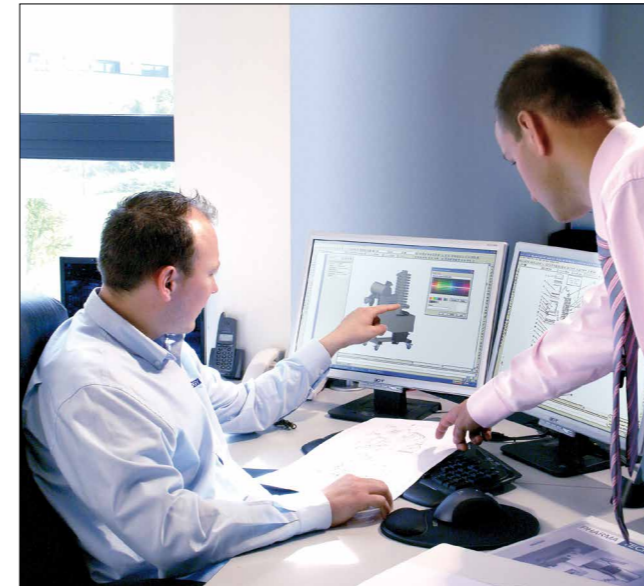


Vacuum unit with Hepa filter for iSeries unit



Washing basket customized for iSeries unit

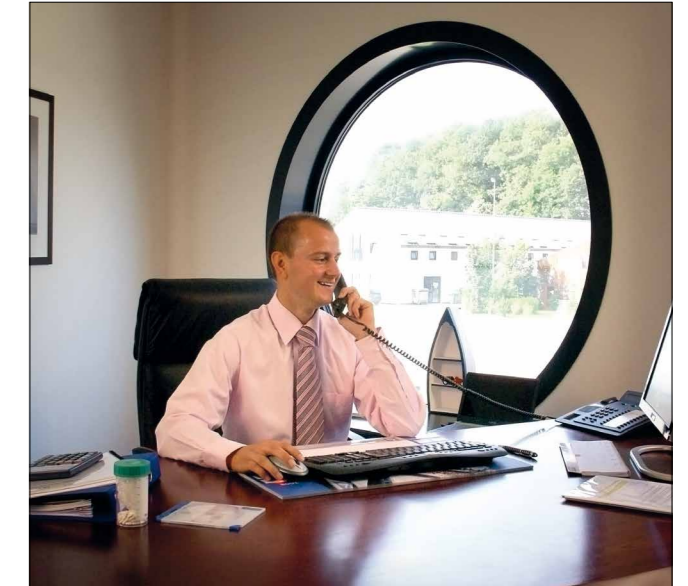
**Engineering Service**



**Efficient after-sales Service**



**International Sales & Service network**





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