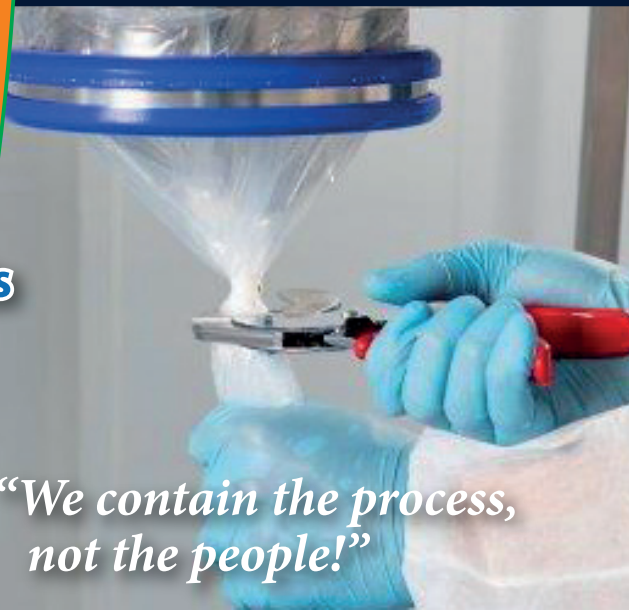




# CSP

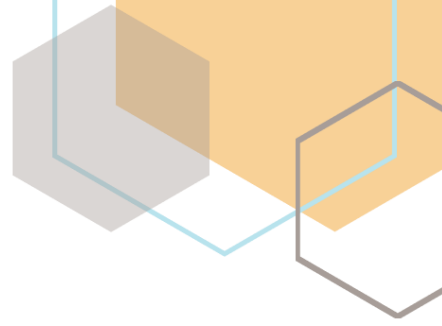
Containment Service Providers  
All your flexible containment solutions

## The Next Generation In Containment Technology



**New Developments**  
**New Products**  
**New Solutions**

*“We contain the process,  
not the people!”*



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# CSP Company Profile

## Introduction

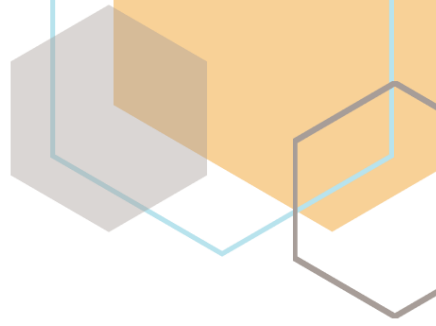
Containment Service Providers are the international leaders in the design and supply of flexible containment that protects both the product or process and the operator.

CSP provide solutions for containment of potent materials in the Pharmaceutical, Food, Chemical and Healthcare Industries.

We specialise in the retrofitting of existing process equipment with product packaging solutions in order to improve the equipment's containment capabilities.

This booklet focuses on our current single use products. We have a second booklet that focuses on our bespoke flexible isolators and the other services we provide. CSP has a global customer base and our products and services are available all year round.





# Manufacturing Facilities

## Cleanroom facility

CSP is an industry leader in the manufacture and production of high-quality flexible containment devices and product packaging solutions. Here at CSP, all manufacturing is carried out within cleanroom structures. Depending on customer requirements, our manufacturing rooms vary from visually clean, positive pressure, hepa-filtered manufacturing areas; right up to fully controlled, class 7, ATEX zoned clean rooms. We also have the ability to achieve class 6 if required.



Each cleanroom is fitted with specialist manufacturing equipment designed to produce high quality flexibles. The operations personnel are specifically trained to work in this environment. Personnel entry and exit from these manufacturing facilities is controlled to maintain the cleanroom standard. Non-essential personnel are prohibited from entering the clean production areas without authorisation. Containment Service Providers is an ISO 9001:2015 certified company. This gives our clients peace of mind knowing that we operate a controlled management system.



# CSP Bottle Bag™

## Product Design

The CSP Bottle Bag™ (CBB), is a single use charge bag for powder handling. It is ergonomically designed to include a seamless heat-sealed ferrule and integrated handle. It allows for convenient handling, storage and transfer of media, including active pharmaceutical ingredients for product packaging projects. The CSP Bottle Bag™ is manufactured from CSP PharmaFlex™ Polyethylene (PE). We offer these units in 2D and 3D designs. As a result, we are able to offer our customers a wide range of choice.

## Specification

The CSP Bottle Bag™ comes in a variety of sizes ranging from 5 to 50 litre capacities and can be supplied with 3", 4" & 6" attachment ferrules (BS4825-3). The CSP Bottle Bag™ can be used in conjunction with any standard split butterfly valve system or as a stand-alone unit depending on the customer's requirements.

## Benefits & Key Features

### Easy to integrate

The reinforced handle allows for effortless manual handling. If the CSP Bottle Bag™ is required to be lifted by a hoist; we supply a custom CSP Bottle Bag™ lifting handle to enable it to be safely used with the hoist. The standard tri-clamp ferrule connection provides extensive compatibility with existing systems.

### Reduce costs and control risks

Reduce cross contamination, time and expense associated with cleaning and validation with the CSP Bottle Bag™ single use container.

### Maximise product recovery

Optimal funnel shape maximises product flow and can be manipulated to achieve over 99.99% product discharge.

### Extensive range of applications

Dispensing from isolators, reactor charging and offloading, product transfer and storage, weighing and dispensing of media, mill feed and mill offload are just a few of many possible applications.

### Built for aseptic processing

Manufactured with high levels of quality control within an ISO7 cleanroom environment. The CSP Bottle Bag™ can be supplied gamma sterilised ready to use in aseptic and other GMP or bioburden-controlled processes.







# CSP Continuous Liner

## Product Design

The CSP Continuous Liner (CCL) is a multiple use, intuitively designed, containment packaging system. The CCL assures the safe and efficient transfer of powders, giving operators the capability to fill numerous containers without breaking containment. Made from FDA and EU-compliant CSP PharmaFlex™ Polyethylene; the CCL provides containment levels of <math><1 \mu\text{g}/\text{m}^3</math> OEL without the need for expensive added extra air handling systems. This makes it an ideal, inexpensive, easy to install system for high containment powder handling.

## Specification

The CCL system comprises of two essential components; the liner and the stainless-steel hardware kit. This includes a stainless-steel cannister with a vent vacuum nozzle built in and necessary clamps and gaskets for installation. A Stainless-Steel support cage to hold the liner and a containment clamp to maintain a clean zone are also supplied. Also supplied with the kit is one full continuous liner. Standard liner diameters and lengths range from 10"/250mm to 23"/584mm and 25 - 50 metres respectively. Other size CCLs can also be manufactured for bespoke purposes. The liner is supplied pre-folded in lengths of up to fifty meters, making them ready for quick and easy installation. The CCL system is CE certified and is suitable for use in ATEX zones 1/21 and 2/22.

## Benefits & Key Features

- Effortless Liner Changeout**

The liner support cage permits seamless connection to existing hardware, without jeopardizing containment. The cage can be dropped, fitted with a new liner and reconnected in under five minutes.
- Maximise Efficiency and Safety**

Long liner lengths allow operators to continually process media saving time, compared to shorter single use units. Continuous liner design eliminates cross contamination of powders, protecting the person, plant, and product. A tundish can also be easily fitted to allow for CIP (clean in place).
- Cost Effective System**

Taylor made products and zero cross contamination reduces costs associated with cleaning and waste material handling.
- Extensive Range of Applications**

This system can be attached to a wide range of process equipment for example; mills, centrifuges, dryer off loads, rigid and flexible boxes etc. We can also supply CCL's attached to Rapid Transfer Ports (RTP's).





# CSP Flexible Intermediate Bulk Container (FIBC)

## Product Design

The CSP FIBC is a single use, robustly designed, containment vessel envisaged for bulk powder handling. It permits the advantageous transport and storage of bulk products. The system consists of a tough outer anti-static polypropylene (PP) restraint attached to a durable inner CSP PharmaFlex™ polyethylene (PE) liner. The PP restraint does not come into contact with the product but acts as a support mechanism for the CSP PharmaFlex™ PE liner. It is the inner CSP PharmaFlex™ PE liner which contains the powder.

## Specification

The CSP FIBC can be manufactured for bespoke purposes, however, our standard collection ranges from 50 – 1000 litre capacities. The outer restraint is Type C Atex compliant. The inner liner is made from CSP PharmaFlex™ PE 77 MED which is FDA and EU Pharmacopoeia compliant. All PharmaFlex™ PE liners are antistatic.



## Benefits & Key Features

### Effortless carriage

The transport loops ensure safe and effective manual handling and are ideal for connection to lifting hoists. They can be transported on pallets or in pallet boxes.

### Nanogram Performance

Industrial Hygiene testing has demonstrated nanogram containment performance of <math><25 \text{ ng/m}^3</math>. This is based on the occupational exposure limit (OEL) during the powder transfer operations. Therefore, when properly applied, this system has been demonstrated to achieve non-detect levels of powder egress. This includes the FIBC replacement.

### Maximise product transfer

Ergonomically designed with a charging and discharging spout, coupled with a pyjama tie enclosure. This permits optimal product flow with minimal media retention during the filling and emptying of the FIBC.

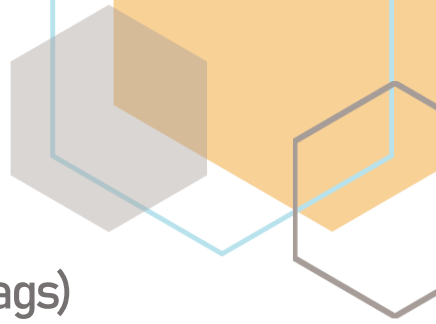
### Quick Sampling

Integral sleeves facilitate quick sampling directly from the FIBC without breaking containment.

### Built to last

Each CSP FIBC is 100% pressure/leak tested upon final inspection and has a 5 years antistatic shelf life from the date of manufacture.





# Rapid Transfer Port Bag (RTP Bags)

## Product Design

The CSP Rapid Transfer Port Bag (RTP Bag) is a single use, high containment system, intended for contained product movement and packaging. Its ergonomic design allows for fast and safe transfer of products or waste material. There is a myriad of other applications in which these bags can be used. The RTP Bag integrates an Optima™ Rapid Transfer Port with a CSP Flexible. It is fully compatible with other makes of alpha flanges as well as injection moulded consumable flanges.

## Specification

The RTP Bag liners comprise of PharmaFlex™ Polyethylene (PE) 77 MED. Standard liners range from 10-100 litre capacities and are FDA and EU Pharmacopeia compliant. Liners can be custom built according to purchaser requirements. They can include continuous liners, bio-type connections and can also be integrated into a wide range of flexible isolators. These bags can also be gamma sterilised upon request. Optima Rapid Transfer Ports are available in diameters of 190mm, 270mm and 350mm. This system has been validated for occupational exposure band (OEB) 5 containment.



## Benefits & Key Features

- |  |  |
|--|--|
| <b>Perfect for high containment processing</b> | Product can be loaded into the RTP Bag at the point of manufacture, delivered to the pharmaceutical production site, ready to use. All components are fully traceable and documented, providing a complete guarantee to clients. |
| <b>Reduce costs and control risks</b>          | Transfer with a secure leak-tight interlock exponentially reduces the risk of contamination and/or exposure, saving time and expense associated with cleaning and validation.  |
| <b>Extremely Flexible</b>                      | The system also offers safe, bi-directional transfer, i.e., the product can be transferred from the RTP Bag to the process zone and vice versa.  |
| <b>Maximise Productivity</b>                   | These bags are very easy to fill and unload, therefore, minimizing the time having to be spent on the operation.   |







# CBio™ Bag

## Product Design

The CSP Bio Bag (CBio™) is a single use, ergonomically designed, flexible container intended for product handling. The CBio™ system, is ideal for powder handling in the biopharmaceutical industry with integrated ferrule connections welded to a flexible liner. This design is three-dimensional (3D) which allows for easier product discharge and flow control. This bag is filled on the open-top end and discharged at the opposite end through the ferrule.

## Specification

The CBio™ is available in a variety of sizes ranging from 5 - 50 litre capacities. Standard tri-clover ferrule (BS4825-3) diameters range from 3" - 8". The CBio™ can be custom built to suit specific requirements upon request. The CBio™ is manufactured from a CSP PharmaFlex™ Polyethylene (PE) 77 MED liner. This liner is medical grade and antistatic. It has an antistatic shelf life of 5 years. It also meets European Pharmacopeia and FDA regulations for product contact. These bags can be gamma sterilised upon request.

## Benefits & Key Features

**Ergonomically Designed for Easy Manipulation**

The offload sleeve with attached ferrule is located on the opposite end of the bag. The 3D design ensures easy, quick and clean off load. This sleeve maximises product flow and can be easily manipulated to eliminate the risk of bridging and the breaking of lumps, achieving almost 100% product evacuation.

**Easy and Quick to Fill.**

This design has a large fill-only neck to allow for easier charging/dispensing into the bag. This reduces fill times and lowers the risk of spillage when filling the bag itself. The CBio™'s large opening, fill only neck, allows for faster and cleaner weight alterations if a bag is overfilled

**Near 100% Product Discharge**

The CBio™'s 3D design has no corners or areas to hold-up powder. All liners are fully anti-static, which helps prevent product from sticking to the inside of the bag. This minimizes product hang up and ensures accurate dispensing volumes are discharged.

**CSP seamless ferrule**

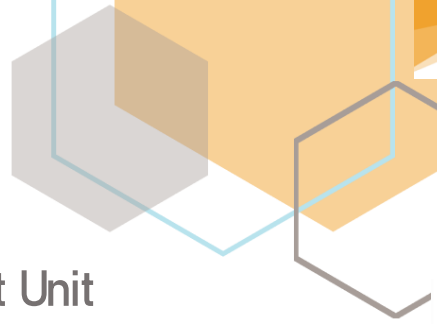
All CSP ferrule connections have a seamless weld for ultimate product recovery. CSP can also supply gasketless ferrules for ease of use.





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## CSP Venturi Extract Unit

### Product Design

The CSP Venturi Extract Unit is a lightweight, portable, extraction device used on isolators that need air filtration. Our simple design allows the unit to be connected to new or existing isolators. The system utilises the Venturi effect to pull particulates in the air into existing filters on an isolator, cleaning the air within an isolator of any potentially harmful contaminants. This air is finally passed through an internal filter within the extract device before being expelled through an exhaust at the rear of the unit. This process of extraction creates a negative pressure atmosphere within an isolator allowing high-containment levels of up to OEB 5 to be achieved. The unit can also be manipulated to create a positive pressure environment within an isolator depending on the user's requirements. The CSP Venturi Extract Unit's small size and quick connect / disconnect make it ideal to be used across multiple isolators.



### Specification

The main body of the CSP Venturi Extract Unit is made from 304 stainless steel. The device is 400 x 300 x 300mm L x W x H and weighs approximately 16Kg. Plant air supply is needed to operate the unit. An internal air regulator adjusts the air pressure from the plant air supply to a maximum operating pressure of approximately 3-bar. This allows the device to provide extraction to an area up to 70m<sup>3</sup> per hour. The unit is fitted with a local differential pressure gauge which can be connected to an isolator to monitor the internal pressure of the isolator. A hand control valve on the side of the extract unit allows the operator to manually control the velocity of the air extraction from an isolator. This valve is to be used in conjunction with the pressure gauge to maintain consistent pressure levels within an isolator.

### Benefits & Key Features

#### **Quick and Easy Installation**

This system has minimal connection points and can be connected to both new and existing isolators. Furthermore, the unit is lightweight, making it effortless transport between isolators.

#### **Simple to Maintain and Safe to Use**

The CSP Venturi Extract Unit can be maintained using a standard tool set and is CE certified and ATEX compliant.



# CSP

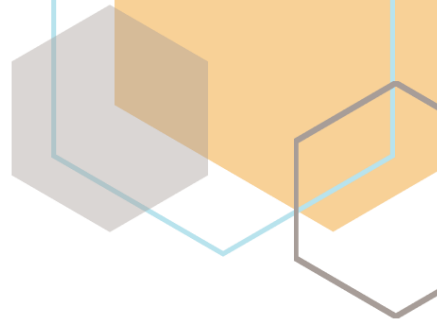
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## Product Re-dispensing

Here at CSP, we have designed powder dispensing stations to help repackage client's material into vessels better suited for their intended applications. This means repackaging bulk material into smaller containers or consolidating smaller vessels into bulk packaging. CSP's re-dispensing systems can accommodate customer's repackaging requirements. We give our clients the opportunity to choose the packing material used, for example; customers specific material or our own CSP PharmaFlex™ material. Each dispensing station is ISO 7 certified and ATEX zoned 2/22 allowing for safe, high-containment processing. Building healthy working relationships is a priority at CSP and we work closely with customers to develop solutions for all of their repackaging needs.





## Types of Re-dispensing

Listed below are several examples of the types of re-dispensing services provided at CSP. Please note, this list is not exhaustive and custom re-dispensing can be provided to suit our customer's requirements:

- FIBCs to PE Liners.
- Drums to FIBCs.
- FIBC to FIBC.
- Drums to PE liners.
- PE liners to vials / bottles bags.

## Features

- Class 7 clean room.
- Systems used in this dispensing sweet are validated to OEB 5.
- Atex zoned 2/22.
- Practical use of high containment systems developed by CSP.
- All operations carried out in a controlled area.
- Over 40 years' experience handling pharmaceutical powders.

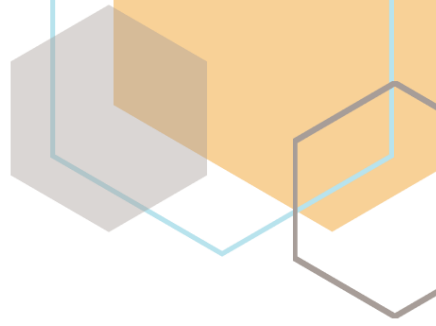
## Benefits

- Major benefit to customer being able to use packages suitable to integrate with their equipment.
- The high-containment systems used ensure that the outside of all packages are clean and powder free.
- Our flexible re-dispensing abilities grant customers the option to choose from a multitude of repackaging options.
- Repackaging helps to raise the containment standards in our customer's facilities.
- Suitable repackaged materials allow customers internal operation to run seamlessly.



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# CSP

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[www.containment.ie](http://www.containment.ie)



### Services

Process Solutions

Containment Systems

*“Global providers of Flexible Containment”*

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