

## DoverPac SF Bags for Pharmaceutical And Biotech Applications

Used for high contained and / or GMP transfer of small volumes of powder including API, Buffer and Media prep. (5 to 100 litres)

The original DoverPac SF was launched to be used in conjunction with Split Butterfly valves. The system replaces rigid bottles



The DoverPac SF for BioPharmaceutical applications consists of a series of standard and customized applications based on the DoverPac SF (Split Flange) and DoverPac O'ring Canisters technology. This expansion of single-use manufacturing is designed to meet the needs of speed of implementation, ease of facility design, reduced validation, cost savings over cleaning and cleaning verification, and reduced capital costs to the operation

## Accurate Dosing With Integrated Pneumatically Conveying System

This mobile dosing station allows the dosing of bulk powder at +/- 5 grams for charges from 500 grams to 500 Kilos.

Integrated pneumatic conveying system (as option) allows a suction of 1 ton per hour. The station is designed to use flexible technology to achieve a containment level of less than 1 micrograms per m<sup>3</sup> with continuous liner or Dover-Pac's and less than 200 nanogram per m<sup>3</sup> by the use of a glove-Bag.

The unit is designed to be fully operated under high containment, also for the change of the pneumatic conveying filters.

Optionally the installation can be 100% CIP ready.



## Media / Buffer Prep Installation

These mobile units allow the tipping of all media and buffer prep ingredients for the biotech industry.

By means of an integrated JetBreaker, the lumps in the powder are crushed and ready to be discharged into customer's reactors. The discharge of the tipping hopper powder can be done by different manners. One installation shows the discharge directly through the patented large jet feeder (suction of the powder into the liquid through the Venturi effect) or dosed into an IBC for accurate filling according to specific recipes. Installations designed to fulfil 100% GMP requirement with integrated CIP functionalities.



## Flexible Containment Room

Flexible room designed to separate a part of the production for containment or GMP reasons. These installations are tailor made and can integrate all specific customers options, as for example, rigid interlock rooms, fan system, powder handling sleeves. As material, we can provide FDA antistatic ArmorFlex, PE, PVC



## Drum Sampling System

Flexible solution for removing small quantities of powder for sampling under high containment

The Drum Sampling Enclosure system, a proven containment solution allows access to the powder within the drum and samples to be removed in a fully contained way. Some processes advocate it is safe to remove the drum lid before placing the drum inside the containment device.

However experience has proven that there is a risk of cross contamination and / or operator exposure when the lid is removed outside a contained system. Our system eliminates this risk by removing the lid within the protection of the robust flexible enclosure.



## In-Line Filter Kit



Equipment allowing the safe change of a HEPA filter in a contained matter. System is used for vacuum and purge lines as well as liquid lines. With this system, the security of your filling line is always given also by filter changes.

Containment levels reached are below 1 microgram per m<sup>3</sup>

## Sample Taker



Pneumatic or manual sample taker allowing the sampling of powder. The frequency and the volume to be sampled can be chosen application by application. As output, customer bottle or continuous liner bag. This equipment allows sampling of high potent powders with a containment level below 1 microgram per m<sup>3</sup>.

## DoverPac — Contained Powder Transfer

Contained Powder Transfer using the Individual DoverPac® System:

- Contained processing to protect the operators
- cGMP processing in a completely closed operation to protect the product
- Available in sizes ranging from 20L to 2000L
- 100% inflation tested
- CE Marked
- Significant capital cost savings over multiple rigid isolation systems
- Significant reduction in cleaning time, waste, and validation expenses
- Containment level: less than 1 microgramm / m<sup>3</sup>



### System Description

This easy-to-use system has been proven effective in containing active pharmaceutical ingredients and other hazardous compounds to assure a safe and effective transfer of powders. The DoverPac® contained powder transfer system includes a flexible ArmorFlex® liner with restraint for containing powders and a set of hardware that fits the flange of a vessel.

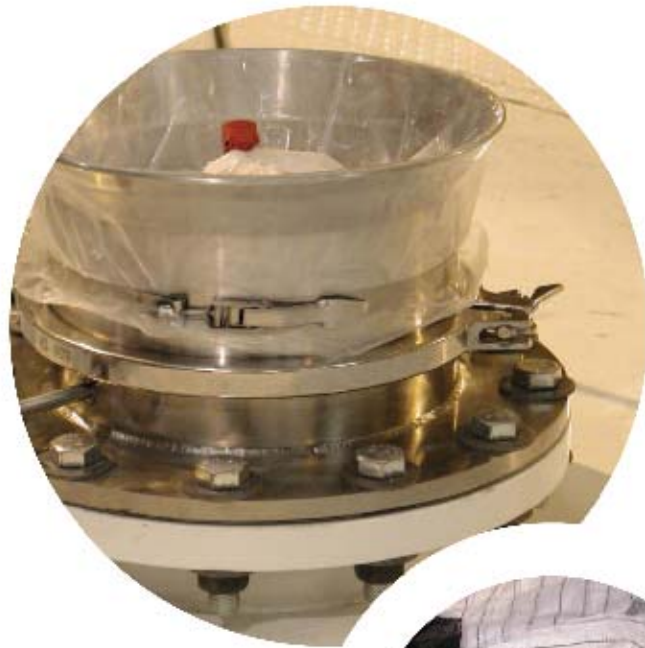
While specific powders react differently due to their particle size, significantly < 1 µg/m<sup>3</sup> occupational exposure level (OEL) over an 8 hour time weighted average (TWA) has been demonstrated with multiple customers all over the world.

## G2Pac — Contained/cGMP Powder Transfer

Eclipsing the traditional FIBC, the G2PAC is smart engineered to address the issues that arise from uncontrolled processes, including compromised facility cleanliness, cross contamination risks and employee exposure to unnecessary hazards. G2PAC by ILC Dover delivers cGMP operation.

### Features

- Durable ArmorFlex® liner with groundable restraint
- Individual necks with bag-out sleeve to support charging and offloading operations
- 35" cubed size
- Secure, dust-free hardware interface to process equipment
- Sized to interface with standard pallet
- Interfaces with ILC contained separation crimps

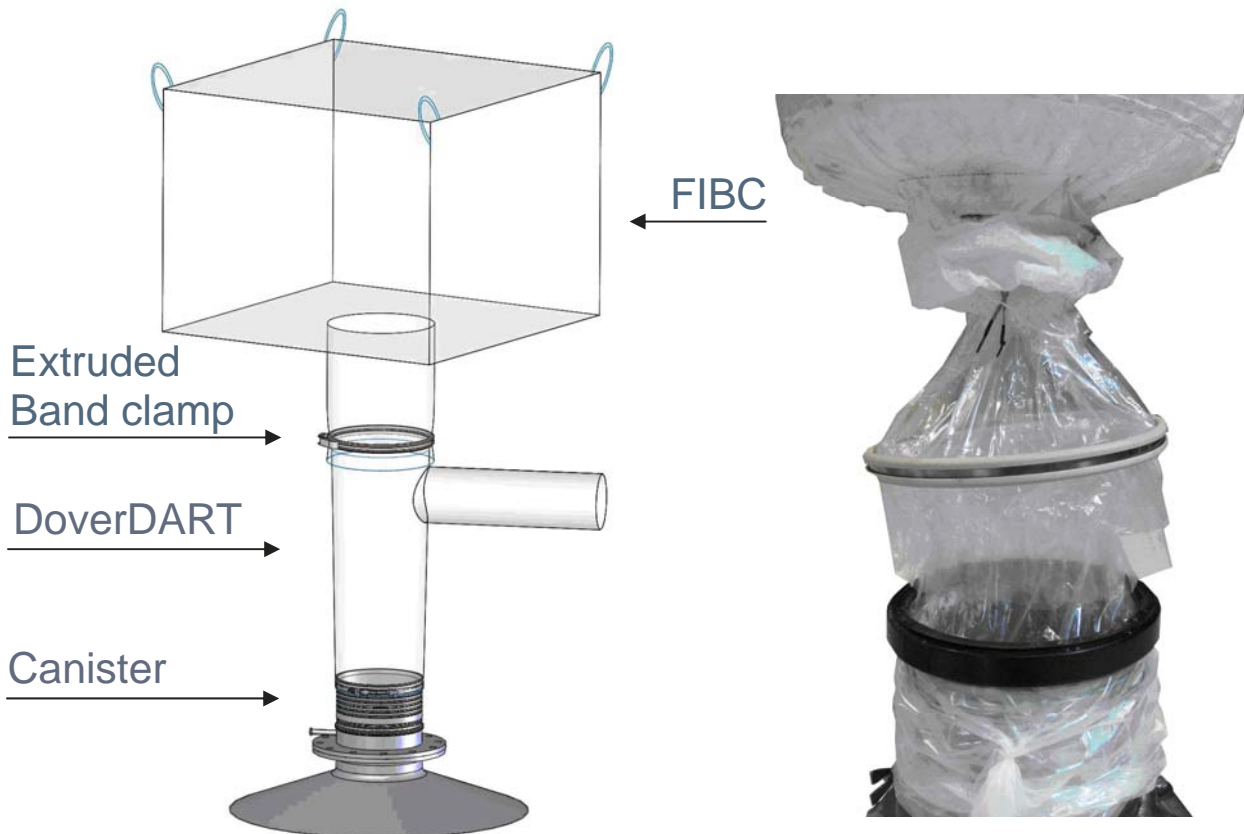


### Benefits

- Economical containment
- Supports dust-free operation
- Reduced cross contamination risks
- Protects operator
- One-person operation

## DoverDART

**DoverDART (DoverDisposableAttachmentRingTechnology)** allows a standard FIBC to be attached to an ILC Dover o-ring canister or a G2Pac stretch canister. The design consists of an attachment sleeve with integral polypropylene ring at the top, a reusable band clamp with extruded cover, and a Weloc clamp to assist in attachment.



The DoverDART is a cGMP transfer method that allows the user to minimize dust release to the facility through a secure attachment and the use of the crimp separation system. It is not a high containment device that allows an FIBC to be used at the same containment levels as a DoverPac.

## JetDocking

The key element for a reliable **big bag emptying system** is the tight, dust-proof connection (docking).

### The main advantages are:

- GMP, FDA and ATEX approved
- Dust-proof system (avoids pollution)
- Improved flow



The manual emptying system, which is configured for a flange ring  $\text{Ø} \geq 100 \text{ mm}$ , enables the bag to be attached between the two stainless steel plates. Handles facilitate the tight, dust-proof opening and closing of the plates.

The tight, dust-proof connection can be equipped with an optional dust remover and a system for removing the fines after the emptying is complete, as well as a massager system to improve the flow of the product as the big bag is emptied.

## Dosicon IBC for the Handling of Large Quantities of Bulk Powder in the Chemical or Food Industry



Thanks to the patented cone valve system, the discharge of bad flowing powder is easily possible. The system can be automated to obtain a dosing accuracy of +/- 200 grams

JetSolutions successfully acquired in 2008 all the ANAG activities and can now deliver equipment and services for all existing or new customers. Other ANAG equipments such as silo discharge valves, pneumatic conveying installations, powder discharge equipments and dosing systems are currently supplied and maintained by JetSolutions engineers.

## DTS — Contained Drum / Keg Dispensing

DTS (Drum Transfer System) designed to discharge partial or complete drums with or without inside liner in a contained manner

Flexible Containment for offloading drummed materials in a safe and efficient manner is provided by the Drum Transfer System platform.

The DTS can be used to dispense powders for many processes including Reactor Charging, Milling, Subdividing/Dispensing, Re-packing, Vessel Loading, and Mixer Loading



The DTS consists of an enclosure attachment frame, a support stand, a drum lifter, an enclosure, an outer drum sleeve, and discharge softgoods that are dependent upon your process equipment

## Ventilated Glove-Bag

Flexible enclosure with new ventilation technology enabling negative / positive pressure in the enclosure for high containment and aseptic requirements



It is available as a static or mobile device and can be used on a variety of applications in the pharmaceutical, medical and Biotech industry. The unit was designed to run in conjunction with any construction of enclosure.