

# Flexible Containment Solutions Guide

**ILC DOVER**  
creating what's next

**DoverPac**  
containment solutions

## DoverPac® SF

### OVERVIEW

The original DoverPac® SF was launched to be used in conjunction with Split Butterfly valves (Figure 1). This system replaces rigid bottles.

### HOW DOES THE SYSTEM WORK?

The basic DoverPac® SF is used either unrestrained (Figure 2), with an integral restraint (Figure 3) or with a reusable restraint.

The system can be filled and emptied through a standard 4" (100mm) DN100 or DN150 integral sanitary flange. The design is set up so that the SF can be used with any Split Butterfly Valve. Filling and emptying the liner is accomplished by attaching the passive half of the valve to the liner which then docks with the active half of the valve. Other sizes have been accommodated as well.

The sanitary flange is injection molded and then thermally welded to the liner. This is done with a blended lap weld which keeps all of the load in shear and eliminates any possibility of powder hangup or bioburden build up in an otherwise raised lip at the seal area.

The unrestrained design uses a separate lifting bar when it is supported for vessel charging. This is significantly more robust than an encapsulated plate.

The restrained version is provided when a concern over back pressure exists. This design uses an integrated restraint that has been proven to withstand pressure excursions of 0.499 bar with a 2X safety factor. A window is included in the restraint so the operator can see that all powder has been discharged into the vessel.

A variety of configurations are available including

- Sizes from 1L, 5L, 10L, 15L, 25L, 30L, 50L, and 100L.
- An integral tube for addition of liquids creating slurry within the liner or for rinsing out the liner to recover any remaining powder (Figure 4)

The DoverPac® SF has also been adapted for cGMP and higher containment applications. For cGMP, a dual tied/S-folded neck is incorporated. (Figure 5). For containment needs past that of split butterfly valves, a model that attaches to our patented multi O-ring system can be used. (Figure 6).



Figure 1



Figure 2



Figure 3

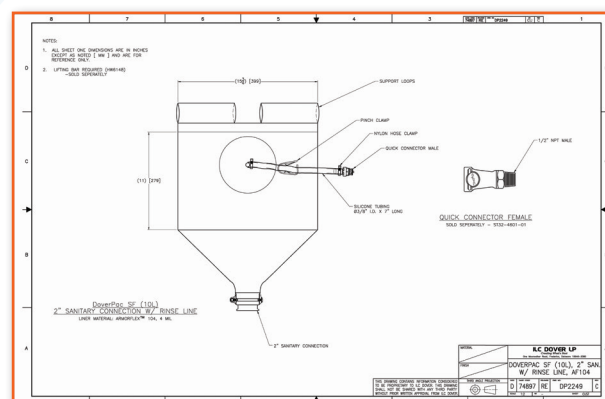


Figure 4

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## What are the applications?

This system has been proven to be of value in:

- Dispensing from Isolators
- Reactor Charging
- Tank charging for mixing creams
- Creating a slurry for later charging into a tank

## FEATURES

- Flexible
- Clear
- Sanitary Flange
- Range of Sizes
- ArmorFlex® Family of Films

## BENEFITS

- Can be manipulated to overcome bridging, also achieves over 99.5% product discharge
- Operators can see product without breaking containment
- Interfaces with any Split Butterfly Valve
- Supports Lab scale through Bulk production
- Assures ruggedness, static dissipation and material of contact compliance



Figure 5

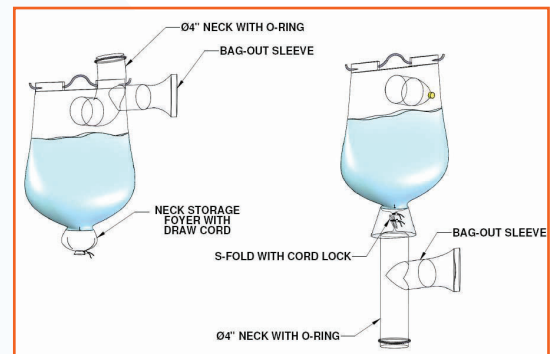


Figure 6

## What containment level IS provided?

The containment level achieved is that of the Split Butterfly Valve selected. If a configuration is selected that interfaces with a DoverPac® multiple o-ring canister as in Figure 6 above at the right, containment to the OEB5 levels in the nanogram range can be achieved.

## Why use this over other technologies?

- Reduced cost of ownership
- Eliminates cleaning and cleaning validation
- Eliminates waste treatment of cleaning solutions
- Best product recovery
- Visual access to drug product being manufactured
- Liner can be manipulated to overcome bridging



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