

Flexible Containment Solutions Guide



FlexiVac™

OVERVIEW

In an effort to provide a better solution for containment to the standard PTS / DCS system, FlexiVac™ was developed along with our partners CSV Life Sciences in Italy and Micro-Macinazione S.A. The resulting innovative solution improves the ergonomics of the system while containment levels have been verified to $<1.0 \mu\text{g}/\text{m}^3$ on a TWA.

BENEFITS

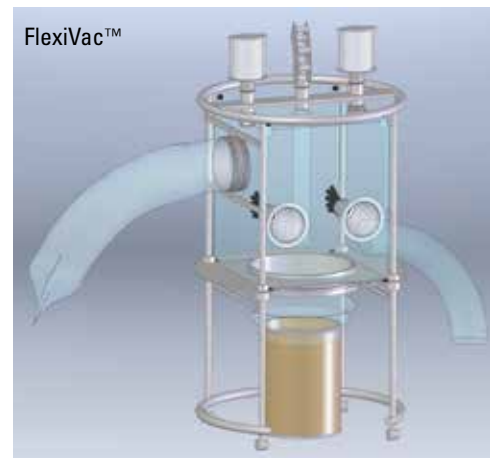
- Operator motion is less restricted with a flexible isolator compared to using a hard box style.
- The "Flexi" system can be provided stand-alone to work with an existing powder pump. The filter design and the wand support are designed to work with typical installations.
- Integrated FlexiVac™ with powder pump is a turnkey system available in non-rated electrics or Ex-Proof.
- Can be operated with nitrogen inerting or the stand-alone static filters which allow for air flow, thus balancing the pressure in the flexible enclosure.

FEATURES

Operator is aided visually in the wanding process, as the flexible wall allows for clear sight into the drum.

Integral Bag-Out sleeves are included which can be used for samples or for the spent liners after a transfer is complete.

A choice of Allen-Bradley or Siemens control platforms are available.



SYSTEM FUNCTIONAL DESCRIPTION

FlexiVac™ features an ArmorFlex® 113 flexible isolator that can be attached within minutes. This safe isolator system is designed to minimize cleaning requirements while providing high containment. The flexible isolator is robust for use on many drums and then disposed. The improved ergonomics and head space above the drum allows operators, while dispensing, to easily take a spent drum liner with its residual level of powder and stow it until the next drum is attached. The residual powder is easily emptied into the next drum (maintaining high containment), eliminating batch shrinkage.

A stretch fit ArmorFlex® sleeve is used to dock the standard drum o-ring canister with the product drum. This is a fast and effective process to make a contained connection. After the powder is vacuumed from the drum a high containment separation process using the CrimpLoc™ is performed. The drum and the FlexiVac™ remain contained and are ready to attach the next drum. This process has been used with isolators in many applications and proven effective. Designed for operator ergonomics, the drum connection has a pivoting position to allow the drum to be easily moved into position, connected, and then removed when empty.

The FlexiVac™ system is available with or without a powder pump for compatibility with existing PTS units or other vacuum systems. The fully integrated FlexiVac™ uses dilute phase conveying technology for the best powder transfer possible.

ARMORFLEX® FILMS

ArmorFlex® 113 film's superior visual clarity makes this the clear film of choice for flexible enclosures and flexible isolators.

- Polyethylene base film provides excellent solvent resistance
- Permanent antistat provides better than 1×10^{11} Ohms per square surface resistivity
- No incineration off-gassing concerns
- ArmorFlex is designed for high strength and has a 500% elongation before failure, assuring safety from tearing during typical use.

ArmorFlex® 114 film delivers permanent static dissipative properties while meeting FDA and 2002/72/EC requirements for food contact and EP 3.1.3 test conditions.

- Complies with FDA 21 CFR
- Passes USP <661> Physicochemical Tests for Plastics
- Passes USP <88> Class VI (7 day implant)
- Passes <87> biological reactivity, in vitro
- Passes Chilworth incendivity test to assure the static dissipative qualities of the flexible isolator
- Tested for solvent resistance
- DMF filed with FDA

CONTAINED DRUM TRANSFER OPTIONS



DTS-Drum Transfer System



VTS-Contained Drum Transfer



DSE-Drum Sampling Enclosure



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