

Bag and drum filling
CLS Continuous Liner System



- Prevents product contamination
- GMP compliant
- Prevents use of complex protective enclosures
- Available with various closure devices depending on containment level
- Supplied with additional features
- Can be used for sterile operations
- 2-3 times longer than standard liners
- High level of containment $< 1 \mu\text{g}/\text{m}^3$
- Elegant, cost-effective solution



Cost Effective



User Friendly



Time Saving



Bag and drum filling CLS Continuous Liner System



Storing chemical and API products in bags or liners is standard practice. Focusing on pharmaceutical products, liners must have specific properties to prevent product contamination. In order to achieve GMP compliant and contained filling of bags or liners, individual bags should not be used as both the product and the operator can be exposed during the removal and exchange of the bags. To prevent the use of a complex protective enclosure, CLS Continuous Liner System is an elegant and cost-effective solution.

The CLS consists of specially folded bags of a length of up to 80 m depending on the liner diameter and the height of the cartridge. The liner is connected to a specially designed support and depending on the level of containment to be achieved, various clip systems or welding devices can be used for disconnecting the bags in a closed and safe manner. Depending on the powder characteristics and the type of closure devices used, a high level of containment of $< 1 \mu\text{g}/\text{m}^3$ can be achieved. The liner filling head can be integrated directly at the outlet of the equipment to be discharged or in a support frame, featuring load cells for weighing purposes, if required. Additional features include rollers for easy handling of heavy loads, vent filter for the breathing of the system and inertisation of the liner as well as a dosing device for the accurate dispensing of the

final product.

The liner can be manufactured and folded in clean room class ISO 5 environment and γ -irradiated, if required for sterile operation. As opposed to standard continuous liner systems, this liner is specially folded side wise allowing to have a liner cartridge 2-3 times longer than the standard ones. Liners can be supplied pre-folded in various sizes, delivered in a PE bag. Folding height and length depend on the foil thickness.

Film qualities and design

- Film type 1: LD-PE FDA with 1 % static inhibitors, migrating (non clean room)
- Film type 2: LD-PE pharma (only clean room confection)
- Film type 3: LD-PE pharma (clean room extrusion and confection) ; permanent antistatic
- Films with customer-specific requirements can be procured and produced on request

Various closure devices depending on the containment level

- up to OEB 3 / Standard Clip System
- up to OEB 4 / SafeSeal - High Containment clip system

Liner cartridge characteristics

- LD-PE material
- Liner width from 300 to 970 mm

- Folding heights 150 / 170 / 250 / 300 / 400 mm
- Liner thickness from 50 - 150 microns
- Dissipative
- FDA approved

Options

- Post confection γ -sterilization
- Antistatic grid matrix; print 2 sides; color green

Further CLS system accessories include

- Vent filter, inflate and deflate function
- Fully contained sampling
- Safety cabinet for additional containment around the CLS
- Welding machine instead of a clip system, OEB 4 containment
- Bellows / weight compensator to prevent scale influence
- CIP hood

Type	Liner width (mm)	D Liner (mm)	d Carrier (mm)	Folding height (mm)	Liner length (m)
CLS 300	300	190	115	150 / 300	5 - 15
CLS 400	400	250	170	150 / 300	5 - 15
CLS 500	500	320	251	170 / 250 / 400	20 - 40
CLS 600	600	380	292	170 / 250 / 400	20 - 40
CLS 700	700	450	359	170 / 250 / 400	30 - 50
CLS 800	800	500	399	170 / 250 / 400	30 - 50
CLS 910	910	580	450	170 / 250 / 400	30 - 80
CLS 970	970	620	450	170 / 250 / 400	30 - 80