ABO – Automatic Bag Opening
Fully automatic machine for unpacking of tubs for nested syringes such as SCF™

Fully automatic tub removal; the most aseptic tub removal process

For the best throughput in high output nested syringe applications, tubs need to be removed from their bags before processing. Fully automatic solutions minimize the personnel involvement and also decrease the risk of potential contamination. Bosch facilitates completely automated lines for the processing of SCF™ tubs for high speed and increasingly more common medium and low output applications.

Minimal contamination risk through the use of the bag’s protective attributes

The bag protects the tub from non-sterile influences in its surroundings. For this reason the protective cover should be left intact just prior to final processing. With the Bosch ABO, the bag is cut and the tub is immediately transferred into the sterile area. This method exposes the opened tub a minimal amount of time in the unpacking area.

Reliable handling of the bags with reproducible conditions

To guarantee reproducible processing despite the complex geometrical properties of the bag, the ABO concept relies on the generation of consistent conditions.

- In preparation for bag opening, a centering frame fixes the bag from the top. Then the bag is stretched by a roller to create a consistent surface for the cutting.
- This cutting method produces only one piece of waste which simplifies disposal of the bags and makes the overall process extremely safe.
- For tub extraction, the bag opening is enlarged by vacuum grippers to ensure that the tub does not contact the non-sterile outside of the plastic bag.
- The unpacking and sterile area are separated by an automatic gate. The transfer of the tubs from unpacking to sterile area is done by a vacuum arm from the sterile side.
- After transferring the tubs to the sterile area, a mechanical arm removes the empty bag into a disposal bin. To increase space in the disposal bin, a system of rollers is utilized to flatten the processed bags.

This defined process is used to ensure that tubs are removed from bags in the most time effective and aseptic manner.

The Bosch Integration Advantage – the safety of a single supplier

The ABO is only one part of the nested syringe processing equipment portfolio designed by Bosch for the complete SCF™ filling line. When combined with Bosch Barrier Systems, Bosch E-Beam, Bosch ATO tub opener, and the FXS line of syringe fillers, Bosch sets a new standard for a complete, integrated solution.
Technical Data
1–6 tubs/min, all tub sizes

Options
Different infeed variations

Your benefits at a glance
- Clear separation of clean room areas
- No contact between the tub surface and outside of the bag
- Optimized utilization of bag’s protective function
- Safe and reproducible separation of bag and tub
- Only one piece of waste
ABO in high performance line (the infeed conveyor in the foreground)

ABO in line for clinical studies (with ATO 3000 + FXS2050)