

Automatic sheet feeder with collection of the finished moulded part.



Centrator

Pusher

A device cooperating with a thermoforming machine, designed to automatically pick up plastic sheets from a pallet, load them into the working area and unload the finished product. Plastic sheets are taken from the pallet by vacuum suction cups and transferred to the dividing window by the loading and unloading frame of the feeder. The functionality of the feeder consists in:

- centring the pallet or pallets with the material,
- centring the material just before it is collected by the suction cups,
- collecting the material by suction cups and transporting it to the working window,
- collecting the finished product from the mould and transporting it to the unloading area,
- moving the finished product from the unloading area to the collection area with a pusher.

The ready-made moulding is collected simultaneously when the sheet is loaded. The clamping frame (upper frame), after the completion of the

forming process, lifts the finished product with the use of pneumatic grippers above the feeder frame level, and after it enters the moulding is put down onto feeder loading and unloading frame.

The feeder is equipped with a centring system, the tasks of which include the positioning of the pallet with the thermoforming material and the centring of the plastic sheets before picking. The feeder also has air-sword installed to separate the plastic sheets and reduce the risk of the sheets sticking to each other on the pallet.

The drive of the feeder components is transmitted by four servo drives of the feeder table, pusher servo drive, servo drive for the feeder loading-unloading frame and two asynchronous motors of the centring system. The feeder control is fully integrated with the thermoformer and controlled via its touch screen.

Optionally, the feeder can be equipped with nozzles for blowing ionized air. Optionally, it is possible to install a double forming system - a system that allows for the forming of two details in one cycle on two independent sheets of material.

Automatic sheet feeder has the following optical security features:

- against the feeder movement in the case when the finished moulding is on the feeder (it has not been pushed by the pusher),
- when the material is in the field of the thermoforming machine (the moulding was not intercepted by the frame grippers after thermoforming),
- when the finished part has not been picked up by the operator and is in the feeder window.

Film presentation:

<https://www.youtube.com/watch?v=fAqW7CpwFxU>