



## *FlexTrim Scoring Machines*

Plastics  
Technologies  
in Motion.

## *FlexTrim* Scoring machines – Production of tear lines for invisible airbags

FRIMO *FlexTrim* scoring machines have been developed to produce tear lines for hidden airbag doors in instrument or door panels. They are suitable for processing all types of skin materials commonly in use today – from PVC and TPO to sprayed, cast or thermoplastic polyurethane. FRIMO's long list of reference projects reflects the company's extensive experience in the scoring technology. Now the scoring machines and their control systems have been completely redesigned. The result is a new generation of machines offering customers a wide range of benefits.

### The best solution for your application: single-station or two-station scoring machines

The *FlexTrim* single-station scoring machine is a compact unit that can be operated with combi-fixtures to process RHD and LHD skins.

The *FlexTrim* two-station scoring machine is the high productivity variant. Loading and unloading of the skins occur in parallel with the operation of the robot in the other station.



# High precision even for 3D contours

## Cutting tools

Depending on the application, the machines use cutting tools with scalpel blades, ultrasonic blades or blades with integrated release agent application.

## Skin thickness sensor

In order to avoid processing low quality parts, the skin can be measured and its thickness can be documented.

## Release agent application

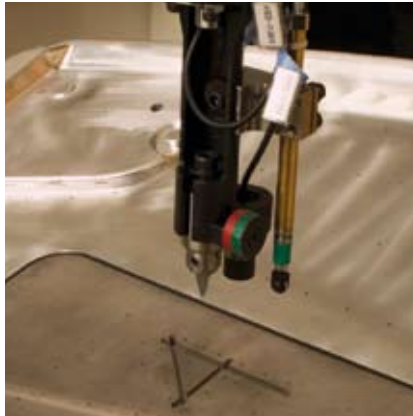
To prevent the cut from re-adhering, a release agent can be applied into the cut. Optical sensors are used to monitor this process.

## Blade disposal station

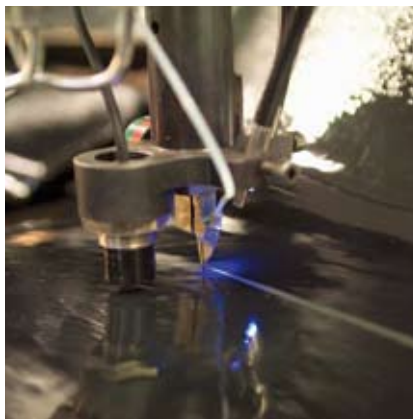
As soon as the high precision laser scanner detects that a blade has reached the end of its service life, the blade is automatically destroyed in order to prevent a reuse.

## Poka-Yoke

To prevent unintentional use of defective parts, the machine can be equipped with barcode scanners or printers as well as stamping units to clearly mark OK or NOT-OK parts.



The contoured 3-D product fixture is equipped with its own vacuum circuit for the area of the hardened cutting plate.



Release agent application during the cutting process.

## Technical data

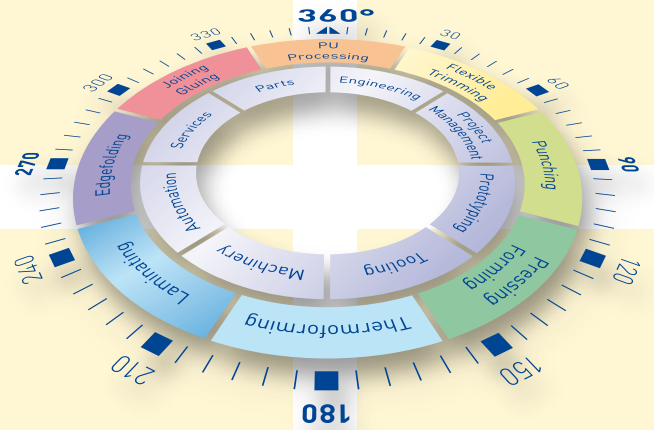
Product part size:	max. 1.6 m x 0.8 m
Machine height:	approx. 3 m
Footprint:	approx. 2.3 m x 3.3 m (single-station machine) approx. 3.2 m x 3.9 m (two-station machine)
Total weight:	approx. 4 t (single-station machine) approx. 5.5 t (two-station machine)
Monitoring:	- Residual wall thickness - Blade wear - Vacuum - Skin thickness - Release agent application
Documentation:	- Barcode - Production date and time - Processing program - No. of the product fixture - Blade type and length - Residual wall thickness (30 values) - Skin thickness (10 values)

## Benefits

- High precision skin weakening process, invisible from the outside
- Can be used for all skin materials
- No thermal damage of the skin
- Compact machine design on a minimal footprint
- Robot-guided cutting tool for optimal access, especially for deep cavities
- Panel PC for the selection of all important machine functions
- Fast product fixture change
- Fork lift transport possible from all sides (single-station machine)
- Integrated database for the documentation of production data
- Machine and fixture from a single source and perfectly matched to each other



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