

Quick Drying and Precise Control

Drying

## Foodstuffs and packaging industries

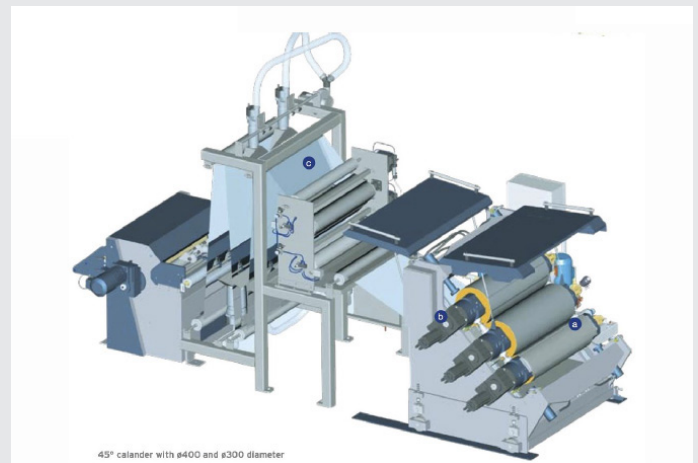
MEAF Machines B.V., a manufacturing company based in Yerseke, Netherlands, produces sheet extrusion machines and deep drawing machines for roll material (inline thermoformer). The company's strengths include supplying turnkey production lines.

When one of MEAF's customers was interested in purchasing a new production system for optimizing its production process of packaging sheets for foodstuffs containers, it immediately referred MEAF to Leister. The customer already had a good experience with an existing equipment line equipped with Leister LE 10000 air heaters and Leister SILENCE blowers.

**The planned new production system was intended to significantly increase production capacity but also to reduce production costs.**

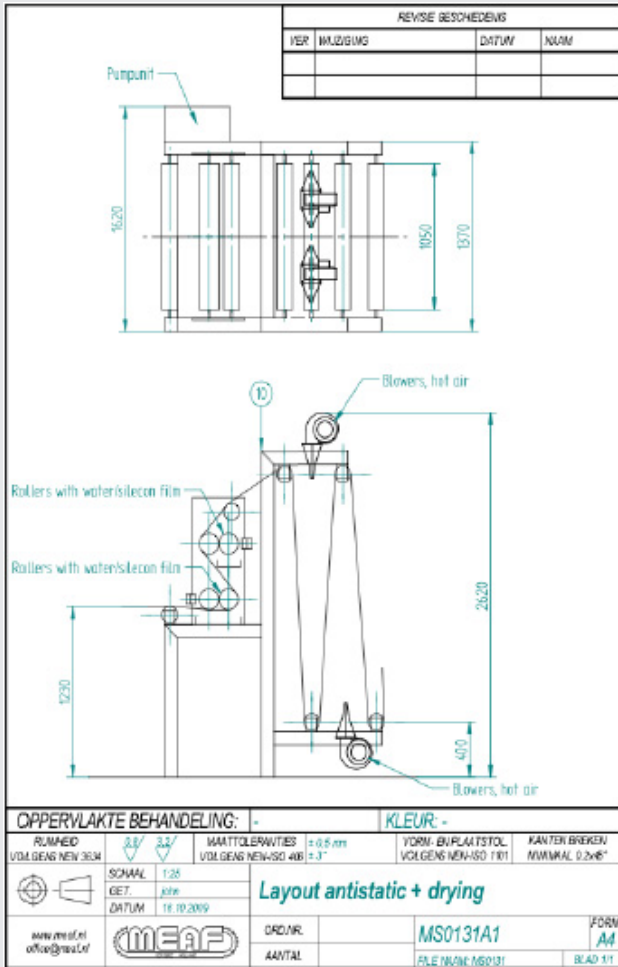
Consequently, the representatives from MEAF suggested equipping the new machine with **an antiblock applicator**.

In this applicator, a Teflon/water emulsion is applied to the sheets and is then dried in the precisely-controlled **drying unit**. This process is an alternative to the comparatively expensive co-extrusion process which utilizes plastic additives and is usually employed for applying functional properties to sheet surfaces (antiblock, antistatic and more).



Production Unit (Calander), © MEAF Machines B.V.

- **APET or PET-A** (amorphous) has a lower melting point than the partially crystalline PET-C material, and can be processed in a wider temperature range without the risk of sharkskin formation. The decisive factors for using APET are its high suitability for thermoforming as well as its lower cost when compared to PET-G —which also is crystal clear.
- **Antiblock properties** are required when manufacturing sheets and flexible packagings. Antiblock additives make it possible to reduce the adhesion (referred to as «blocking») between two layers of sheet, thereby permitting significantly better handling both during production and also subsequent use of the product.

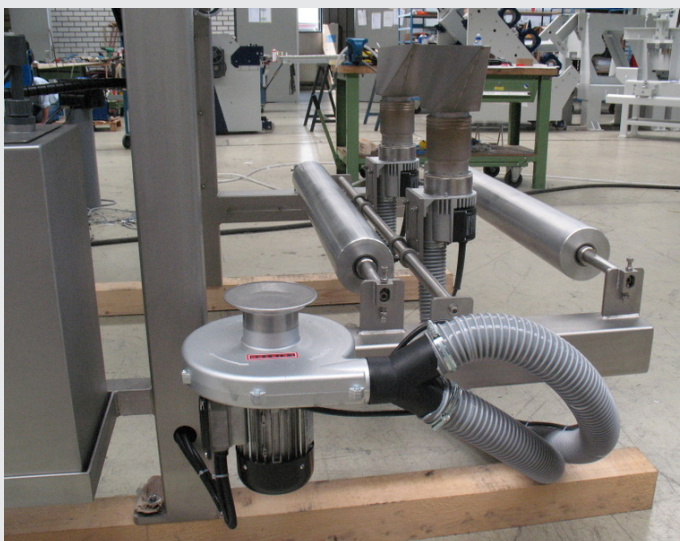


MEAF followed the customer's recommendation to invest in Leister hot-air technology again.

With a combination of the latest generation of Leister air heaters and blowers, the drying process can easily keep pace with the accelerated production rhythm, while the control function is optimally incorporated into the process controller.



Production Unit



1 of 2 SILENCE blowers



2 of 4 LHS 61L SYSTEM air heaters with their wide slot nozzles

### Leister products in operation (drying unit)

- 2 x SILENCE blowers
- 4 x LHS 61L SYSTEM air heaters
- 4 x wide slot nozzles

#### SILENCE blower

The SILENCE radial blower is very quiet at 61 dB(A) during operation; it delivers high air volumes and can be installed in all orientations.

It is specially-designed for use at air inlet temperatures from 100°C to 200 °C (212°F to 392°F), and operates without difficulty at ambient temperatures up to 75°C (167°F).

In industrial processes, one blower often supplies several air heaters. In the MEAF design, each pair of LHS 61 L SYSTEM air heaters is supplied by one SILENCE blower.

#### LHS 61L SYSTEM air heater

The LHS 61 series is the first choice when high performance is required in applications.

- Simple to integrate
- Overheating protection with alarm output for the heating element
- Tool overheating protection with alarm output
- Adjustable heating capacity via potentiometer
- Remote control via analog interface (4 – 20 mA or 0 – 10 V)
- Various open-loop and closed-loop control modes available for selection
- LED display (target/actual value display)

### MEAF production line with antiblock applicator

- For A-PET sheets between 0.15 – 1.2 mm thick
- Made entirely of stainless steel, equipped with roller unit and droplet spray system.
- Rollers are pneumatically pressed into contact
- Includes 60-liter (15.85-gal) stainless steel tank with circulating pump
- Two spray pumps equipped with extraction and fill level indicators and alarm signals.
- Includes control unit for stand-alone operation.

## Summary

The successful combination of low-cost material (APET), an efficient process (antiblock applicator) and high-performance hot-air technology (Leister air heaters and blowers) has accelerated the production process and reduced costs; last but not least, the end-users in the process (the customer's personnel) are also highly satisfied.

For the manufacturer of the machine, MEAF- Machines B.V., the straightforward way in which the Leister devices could be installed proved to be a great relief. This meant savings in terms of time and money.

#### Leister Sales and Service Center:

Leister Benelux [www.leister.nl](http://www.leister.nl)

#### Customer:

MEAF Machines B.V. [www.meaf.com](http://www.meaf.com)

#### Material:

APET (PET-A)

#### Text, images, drawings:

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