



Customers have the opportunity to carry out trials on the HydroFormer pilot line in Düren.

## HydroFormer pilot line in Düren, Germany

# Less risk through trials

**When considering modifications to a wet laid nonwovens machine or investing in a new machine, there are ways to minimize risk. Voith Paper offers the possibility of running trials on the HydroFormer pilot line in Düren in order to test the technology. Voith Paper also uses the machine for development testing.**

The headbox of the HydroFormer pilot line can be operated as one-, two- or three-layer. Fibers up to a length of 40 mm can be used.

The pilot line consists of a pulper, three machine chests, a closed white water tank, a 3-layer HydroFormer headbox, an inclined wire section (10° to 20°), a pickup and a press section.

“The core of our machine is the three-layer HydroFormer headbox,” explains Egon Friesenhahn, R & D engineer for special machines at Voith Paper in Düren. The wire angle and the apron board angle of

the headbox can be changed.

It is thus possible to find the best setting of the headbox and the wire section for each grade. Hand sheets can be taken from the wet rolls for further analysis.

### Contact



**Dr. Klaus Afflerbach**  
[klaus.afflerbach@voith.com](mailto:klaus.afflerbach@voith.com)

### Technical specifications

#### HydroFormer pilot line in Düren

Formation width: 0.5 m

Design speed: 1,000 m/min

Working speed: 10 - 600 m/min

Basis-related weight range:  
 10 g/m<sup>2</sup> to 700 g/m<sup>2</sup>

Consistency in the headbox: 0.01% to 0.3%

Max. headbox throughput: 24,000 l/min

### Brief cultural history:

#### Tea bags

There are tea bags in all variations: square, round, pyramid-shaped, with string, stapled or knotted.

Even the ways of using the specialty filter papers filled with tea differ from country to country. While people do without tea bags altogether in China, in Great Britain they prefer flat, round bags without string that are put on the bottom of the cup. The Germans favor the square tea bags with string and staple.

The tea bag was invented over 100 years ago, accidentally, as it were. A tea merchant from the US wanted to avoid unnecessary weight when shipping his tea samples and put the tea in small, space-saving silk bags. The recipients immersed the entire bag in the water when preparing the tea, assuming that this was so intended. A few years later, tea bags were made from paper.

Today, tea bag paper is manufactured on inclined wire machines (e.g., Voith Paper HydroFormers).