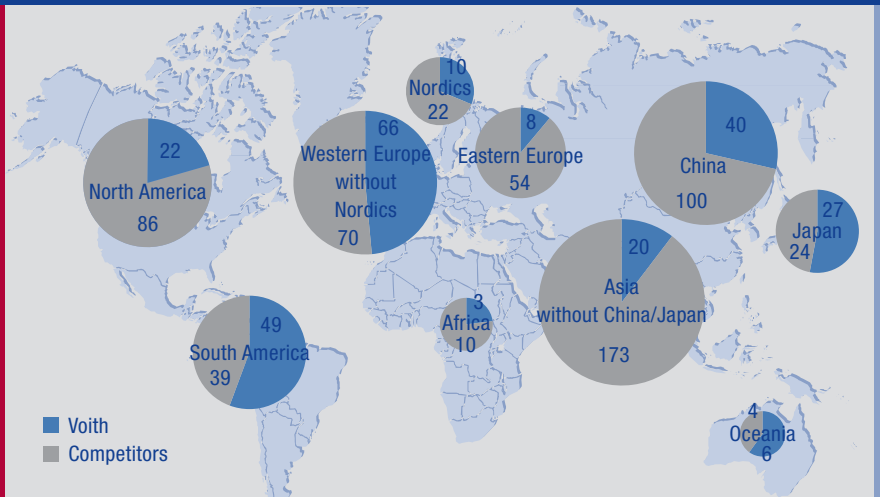
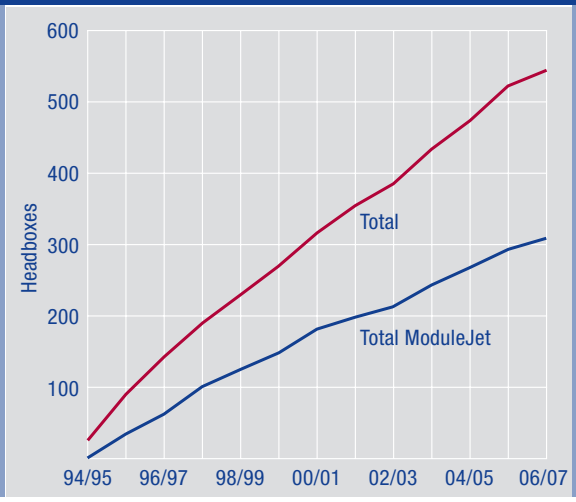


Voith headbox market share since 2001



Voith headbox installations with and without ModuleJet

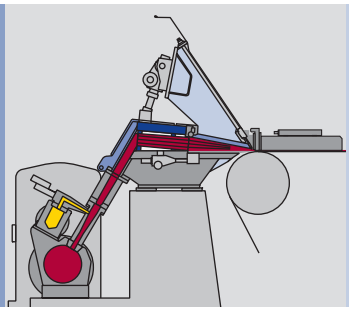
Improved paper quality through the adapted headbox

MasterJet II – for super sheet formation

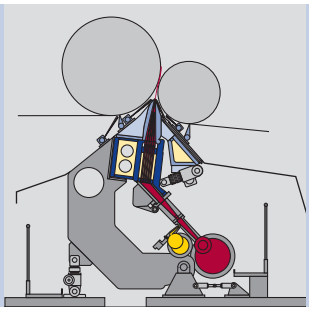
Among all the factors influencing paper quality, the headbox plays a key role. State of the art in this connection is the MasterJet II headbox family, which incorporates not only decades of papermaking experience and technological know-how, but also the latest findings both in research and practice.

In 1994 Voith revolutionized headbox technology by introducing the ModuleJet dilution system. This innovative technology markedly improved paper quality in terms of basis weight profile and fiber orientation, also resulting in smoother operation, greater production output and fewer web breaks. Thanks to this and its reliability, the ModuleJet concept was soon adopted throughout the paper industry. Over the last 13 years it has been applied to more than 300 headboxes, including over 40 headbox rebuilds. During the same time period Voith has sold more than 500 headboxes in total, thereby upholding its positioning as market leader in this field:

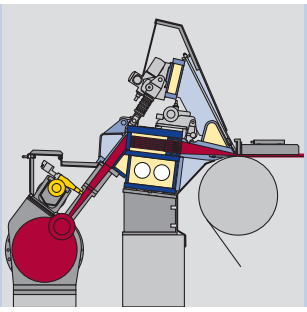
MasterJet II F/B



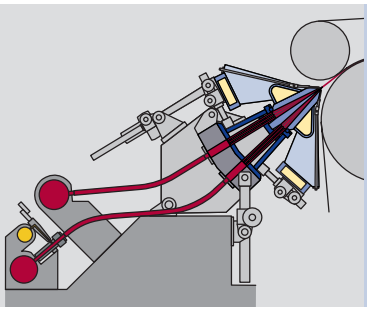
MasterJet II G



MasterJet II F



MasterJet II M2



our market research findings show a global market share of 26% for Voith headboxes. This remarkably high market share, considering the large number of competitors, is due not least to the fact that Voith can supply exactly the right headbox for practically every application.

Currently the Voith headbox family mainly comprises the MasterJet II F/B, F, G and M2 versions. These cover fourdrinier, hybrid and Gap-Former applications at speeds of 70 to 2,200 m/min over a wide range of basis weights and stock compositions. The specific stock flow rates range accordingly from 1,500 to 38,000 l/min/m, thus making it very difficult to cover the entire application range with a single headbox concept. The MasterJet product line is however the perfect solution for practically all applications, except in a few cases where a special design is required, such as the RollJet rectifier roll headbox for cigarette paper or greaseproof papers.

The MasterJet II headbox is distinguished by its flexibility, dependability and extremely high quality results, due also to additional features including:

- Pulsation damping:
  A buffer tank with damping plate and air cushion efficiently smooths out any pulsations emanating from the approach flow section.
- Cross distribution:
  A cross flow header with optimized parabolic geometry ensures constant static pressure over the entire machine width.
- Consistency control:
  ModuleJet modules regulate the stock consistency for efficient basis weight profile correction.
- Turbulence generation:
  The MasterJet II tube bank generates optimal turbulence thanks to its square outflow cross-section, optimized flow steps and interchangeable inflow inserts.
- Jet formation and trajectory:
  The optimized nozzle, lamellas, slice blade and bottom lip ensure perfect jet quality.
- Maintenance friendliness:
  The stilling chamber and the nozzle can be opened over the entire machine width to enable optimal maintenance access.

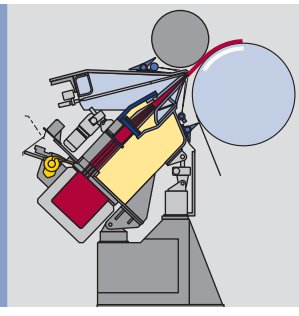
Apart from new headboxes, rebuilds of existing headboxes are increasingly in demand. It has been possible ever since 1995 to upgrade Voith headboxes with ModuleJet dilution technology. Since 2004 a special version is available for other makes of headbox: the ModuleJet DR (Dilution Retrofit). In this version the dilution medium is fed through a dosing plate between the back of the headbox and the existing header.

This ModuleJet version was installed very successfully on SymFlo headboxes in Ettringen and Rauma. Further installations will follow shortly on Tampella and Beloit headboxes.

Installing an EdgeMaster is a small but often decisive step toward improving sheet edge quality. By ensuring clean suspension on the wire edges, this sealing strip with adjustable geometry effectively prevents edge wave formation.

In summary, the Voith MasterJet meets the highest demands with regard to hydraulic concept, adjustability, user friendliness and maintenance access. It also sets benchmarks in materials selection, manufacturing precision and surface quality.

ModuleJet DR



Improves sheet edge quality: EdgeMaster

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