Measuring and Diagnostic Service
Guarantees reliable and safe plant operation
### Three service packages for your individual requirements

The Voith service packages are flexible and tailored to your needs to effectively use your existing systems. Get the best out of your system with either a single service package or a customized service agreement.

#### Single inspection
Troubleshooting or basic measurements offer a readily available tool to quickly get to the heart of any problem. As a result, costs can be optimized and shorter downtimes achieved, while ensuring greater operational efficiency.

#### Extended Scope
Comprehensive measurements and analysis provide the basis for planning capability, implementing the right solution at acceptable cost as well as ensuring the fast and efficient achievement of goals.

#### Reliable experience
Voith has a global network of experts with more than 150 years of experience. Our customers rely on these resources to get the best results from their plant.

#### Proactive service reduces costs
The service packages are flexibly available as single service packages or service agreements. These agreements guarantee long-term functionality through status audits, checking and optimizing the individual components and recommendations for correction of the defects. This service also ensures long-term value preservation of the overall plant and is a preventive maintenance measure.

#### Service package portfolio
Customized service packages are available for all sections of the paper production line. In addition to these packages, Voith is also a competent partner in a large number of other areas.

### Package scope

<table>
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<tr>
<th>Package scope</th>
<th>BASIC service package plus:</th>
<th>COMFORT service package plus:</th>
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<tbody>
<tr>
<td>Troubleshooting or basic measurements</td>
<td>• Comprehensive measurements and analysis</td>
<td>• All-round solutions including additional service personnel</td>
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<td>technical status</td>
<td>• Checking the technical status</td>
<td>• Comprehensive rebuild surveys to improve quality or production</td>
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<tr>
<td>Service report with recommendations</td>
<td>• Service report with recommendations for further action</td>
<td>• Technological advice</td>
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<td>for further action</td>
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### Your benefits

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<tr>
<td>• Complete transparency about</td>
<td>• Comprehensive investigations from a single</td>
<td>• Everything from one source</td>
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<td>mechanical/technological status</td>
<td>source</td>
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<td>and functionality</td>
<td>• Exploiting global know-how and expert network</td>
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<td>• List of corrective measures and</td>
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<td>recommendations</td>
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Various add-on options for mechanical and electrical services and automation are available for all packages.
We know your potential!  
Do you?

Problems on a paper machine are not always immediately obvious. Our specially designed analytical systems, closely combined with the many years of experience of Voith service personnel, help you to identify problems in good time, analyze them and solve them as a next step.

Regardless of the location of problems on a paper machine, they always impact negatively on paper quality and the economic efficiency of the production process. Our measuring and diagnostic services are specially designed to identify problems in good time and to develop various options for action. Detailed and technically sound analyses provide you with the framework for strategic decisions to resolve problems within the production process.

**Approach flow system stability**  
The approach flow and the wet end form the basis for good paper profiles. If faults or malfunctions occur it may not be possible to rectify them in downstream process steps, resulting in lower quality and economic efficiency.

The stability analysis can seek out problems of this nature and prevent impaired efficiency in production. It can be used as a troubleshooting tool to avoid poor basis weight profiles or streaking. The analysis includes, for example, measuring pressure pulsations on the most important units and online transmission measurements.

**Analysis of CD moisture profile**  
The CD moisture profile of a paper web is usually recorded automatically by the machine’s quality-control system and clearly represented in the analytical software. In the event of problems these standard measurements are generally no longer sufficient and may even be misleading.

Using the mobile moisture cross profile measurement system from the wire to the reel, deviations and fluctuations can be recorded while the machine is in operation and without interfering with the process. The analysis of the system then allows immediate optimization of influencing variables such as the settings on the press or steam box.

**Vibration analysis**  
Even at low speeds, critical vibrations may still occur. It is then virtually impossible to increase production speed. The vibration analysis provides possible options for eliminating them.

Some of the measurements can be carried out during production with the machine running. In a further step, speed-up tests are performed without paper production. The critical speed of guide rolls and doctor beams is determined by means of mechanical stop tests. This test determines whether the machine parts as such or the corresponding machine frame have to be optimized or serviced.

**Measurement and alignment**  
The misalignment of rolls impairs paper quality, resulting in vibrations and associated problems in operation. An optimum production result can only be achieved through optimum efficiency. In this context, the correct alignment plays an important role. We have the necessary experience to perform mechanical and laser optical measurements on rolls, drives, foundation rails, dewatering elements and frame components.

The analysis carried out by Voith experienced specialists can determine and positively influence those factors that can subsequently have a major impact on the cost efficiency of production.

**Paper profile analysis with Tapio**  
Measurements with online scanners inside the paper machine only detect a fraction of the most important quality parameters and are often insufficient for a qualified paper analysis.

Our offline paper sample analysis with Tapio ensures high-resolution sampling in machine and cross direction. All important parameters can be assessed under laboratory conditions. In addition, we compare your measurement data with other samples or the grade-specific and region-specific benchmark data from our extensive knowledge database.
Approach flow system stability
Optimal quality and runability

The faultless condition of the wet section is the basis for good paper profiles. If faults or problems occur in this area they can quickly have far-reaching consequences. One preventive measure is to perform a stability analysis of the approach flow.
Paper moisture CD profile
Mobile moisture profile measurements

The mobile moisture measurement system (NIR and Microwave) can be used to analyze the CD moisture profile at key points along the paper web without stopping production.
Vibration analysis
Identify critical vibrations

If vibrations are already occurring on the machine at low speeds it is virtually impossible to increase production speed. Voith experts help to find the causes and permanently eliminate them.
Measurement and alignment
Identification and rectification of critical deviations

The demands on paper production are constantly increasing. You can continue to keep up with these requirements through a machine that is perfectly aligned.
Paper profile analysis with Tapio
Detecting quality issues

Perfect paper quality is essential for your customers. Our high-resolution offline analysis detects quality issues in your paper samples in machine and cross direction that can never be detected by the online scanner.

Please insure that samples are prepared according to Voith guideline:
- Samples in machine direction: width 120-300 mm, length approx. 2 production minutes
- Samples in cross direction: 35 cross stripes of a full reel, width approx. 500 mm

Package scope for sample analysis in machine direction

Analysis of one set of machine direction (MD) samples. Measurement of basis weight, ash, caliper, gloss, transmission, opacity and porosity.
Report consists of:
- Data sample analysis
- Time signal and FFT spectrum
- Statistical KPIs

Analysis of one set of machine direction (MD) samples. Report consists of:
- Data sample analysis
- Benchmark incl. value assessment

COMFORT Service package plus:
- MD and CD samples analysis
- Technology assessment report

Premium package will be offered on request.

Package scope for sample analysis in cross direction

Analysis of one set of cross direction (CD) samples. Measurement of basis weight, ash, caliper, gloss, transmission, opacity and porosity.
Report consists of:
- Data sample analysis
- Cross profile and wave length analysis
- Statistical KPIs

Analysis of one set of cross direction (CD) samples. Report consists of:
- Data sample analysis
- Benchmark incl. value assessment

COMFORT Service package plus:
- MD and CD samples analysis
- Technology assessment report

Premium package will be offered on request.