

**Best-in-class technology
meets digitalization
DuoShake Digital Generation**





The best sheet formation thanks to clever utilization of forces

High paper quality

Sheet formation has considerable influence on paper quality. The DuoShake Digital Generation shaking unit for the breast roll contributes to a more homogeneous distribution of fibers and an increased orientation of the fibers in cross direction. The result is better formation and a lower MD/CD tensile strength ratio, so that an altogether higher level of quality is achieved.

DuoShake DG allows continuous adjustment of the shaking stroke and frequency during operation of the paper machine. There is no mechanical stroke adjustment; the system is very robust and has minimal maintenance requirements.

Product-specific advantages at a glance

- + The base only has to support the dead weight of DuoShake DG; no bothersome reaction forces are transferred to the headbox or the wire section
- + The design is compact, robust and enclosed
- + The carriage is mounted hydrostatically and thus in a low-wear fashion
- + Lubrication is integrated in the system, and ensured through the circulation principle
- + Propulsion takes place directly by means of gearmotors that are characterized by low electrical power consumption while in operation

Paper technology benefits

- + Improved CD strength
 - + Improved formation
 - + Reduced basis weight at same strength values
 - + Increase in paper machine speed thanks to better de-watering
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- 1 Homogeneous fiber distribution completely without bothersome vibrations
- 2 Two rotating pairs of imbalance masses provide for the right stroke

Perfect physics

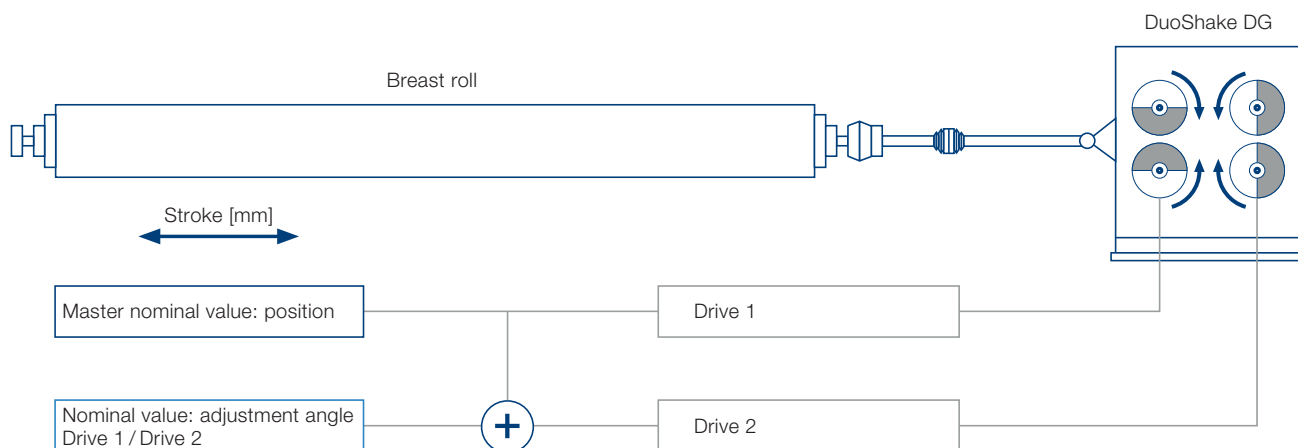
Two rotating pairs of imbalance masses are arranged on the hydrostatically mounted carriage of DuoShake DG. Due to the rotation, forces develop that are transferred with a shaking rod to the breast roll.

The horizontally freely vibrating system only transfers negligibly small friction and centering forces to the base, in contrast to conventional shaking units. The imbalance masses move in opposite directions within a pair of masses and are arranged so that the vertical forces cancel one another out. The stroke results from the position of the mass pairs vis-à-vis one another.

Synchronized start-up

After DuoShake DG is switched on, the oil supply is initially activated for the hydrostatic system and the oil circulation lubrication. Then the two pairs of imbalance masses are synchronized. After reaching a specified minimum speed of the wire, DuoShake DG moves to the preset operating values. In case of changes in production conditions or a grade change, the new operating values can be entered at any time.

Schematic diagram





Two sizes to suit individual requirements

DuoShake DG is available in two different sizes with a drive motor torque of either 250 Nm or 800 Nm. The installation size required can be roughly determined with the aid of the operating characteristics. Whether the existing space conditions are sufficient for the installation size ascertained can be checked on site with the dimension sheet. Despite its excellent power, the DuoShake 800 features a very compact design.

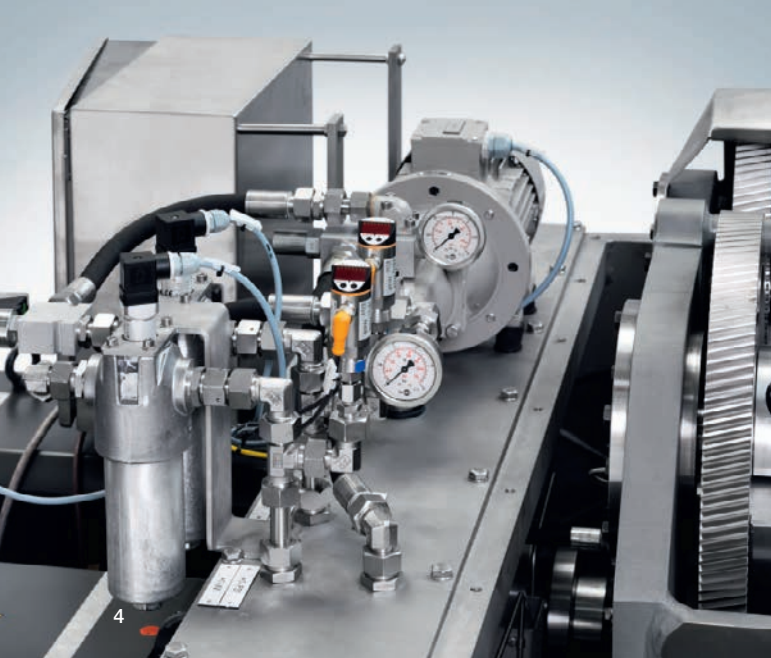
Technical specifications

	250	800
Maximum drive torque (Nm)	250	800
Maximum shaking rod force (kN)	50	120
Shaking stroke (mm)*	0 – 25 (30**)	0 – 25 (30**)
Shaking frequency (1/m)*	150 – 600	150 – 600
Weight (kg)	~4 000	~6 000
Maximum power consumption (kW)	~4	~14

* as per operating characteristics

** as per customer request

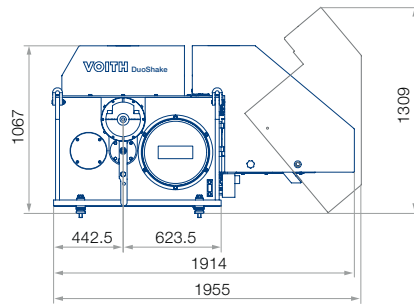
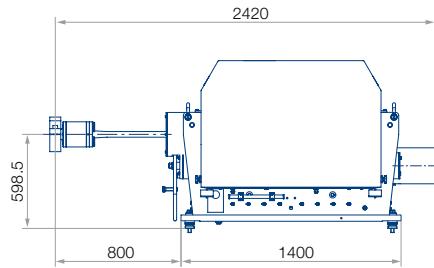
Technical data and illustrations without obligation, subject to change.



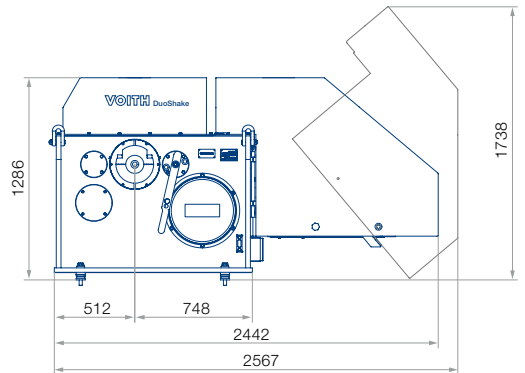
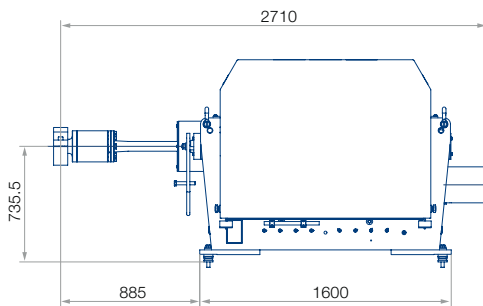
- 3 Two different installation sizes for all requirements
- 4 Integrated hydraulic system for hydrostatics and lubrication

Dimension sheet DuoShake DG

250 Nm



800 Nm

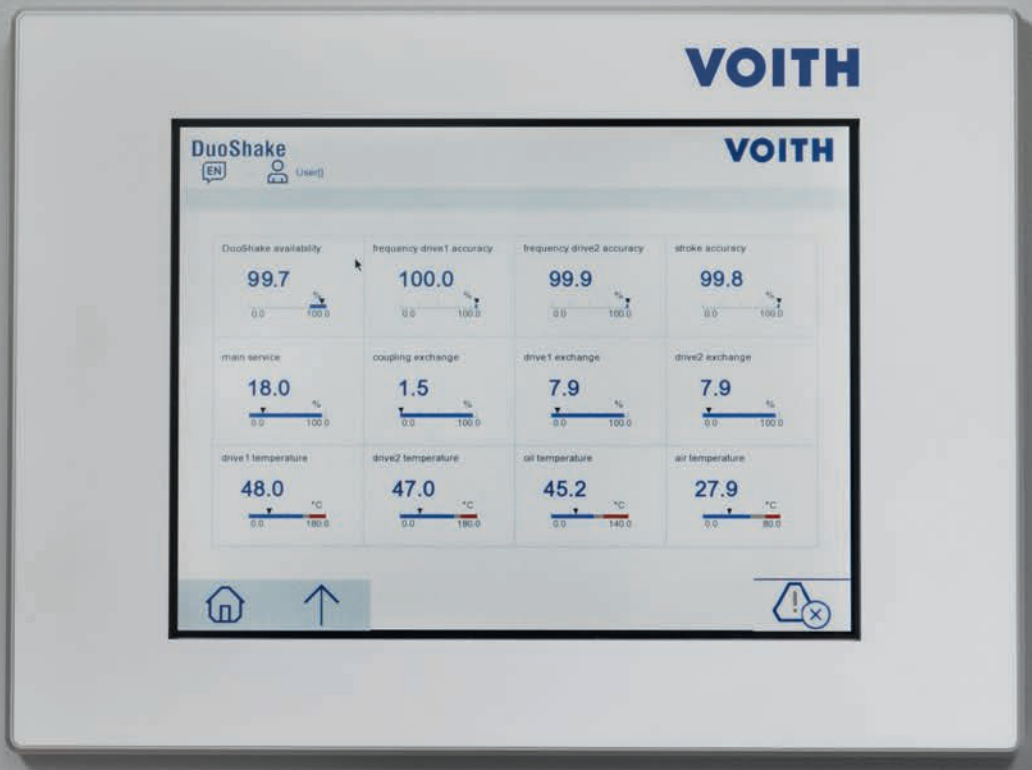


“We are taking reliable, best-in-class technology that has proven effective over decades and improving it by exploiting the potential offered by digitalization. With the DuoShake Digital Generation, we are taking the next step on our journey to Papermaking 4.0. Our customers are already benefiting from the easy to handle, intuitive control unit and cutting-edge monitoring functions. At the same time, the digital generation of DuoShake will ensure that Voith can satisfy and help shape the paper production requirements of the future.”

Benjamin Kitze, Global Service & Product Manager Forming Section







Simple system integration and start-up

Use the existing set-up without much effort: DuoShake DG can be easily integrated in the existing process without any problems. Operation and control are designed for maximum user-friendliness in this digital era. This substantially improves process reliability and machine availability and also reduces maintenance costs.

The electric control unit and power feed for the motors are located in a switching cabinet. The operating parameters are input on site via a stationary operator terminal or optionally using mobile devices like tablets or smartphones. Only one person is needed to commission the DuoShake DG. The web-based software used is a customized development from Voith. Optionally, the system can also be connected to an existing process control system via an interface.

Real-time data monitoring and visualization

The cockpit user interface of the operating software provides a real-time display of all main parameters, including e.g. availability, stroke accuracy and drive frequency. This ensures maximum transparency.

The visualization of the elements displayed is modern and easily interpreted and the touch controls are very intuitive. Important information on hydrostatic pressure as well as air, oil and motor temperature are represented by means of an easy-to-see traffic light system. A customizable notification system for warning messages allows for fast response times if needed.

Remote monitoring: Operating parameters and all other data are not just accessible on site but can also be viewed anywhere and at any time using mobile devices (Android/iOS). Access rights can be defined individually depending on user.



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5 Modern operator terminal with touch control

6 Switching cabinet with integrated control and drive technology

Condition-based maintenance

DuoShake DG records actual operating times. Servicing intervals can be coordinated with these so that fewer shutdowns are necessary. Real-time data on maintenance intervals and service life of the most important machine components (motor and coupling) ensure a simplified and reliable maintenance planning process. The actual operating condition is known at all times. If maintenance becomes necessary then it can be planned and scheduled to be as efficient as possible.

All key data at a glance

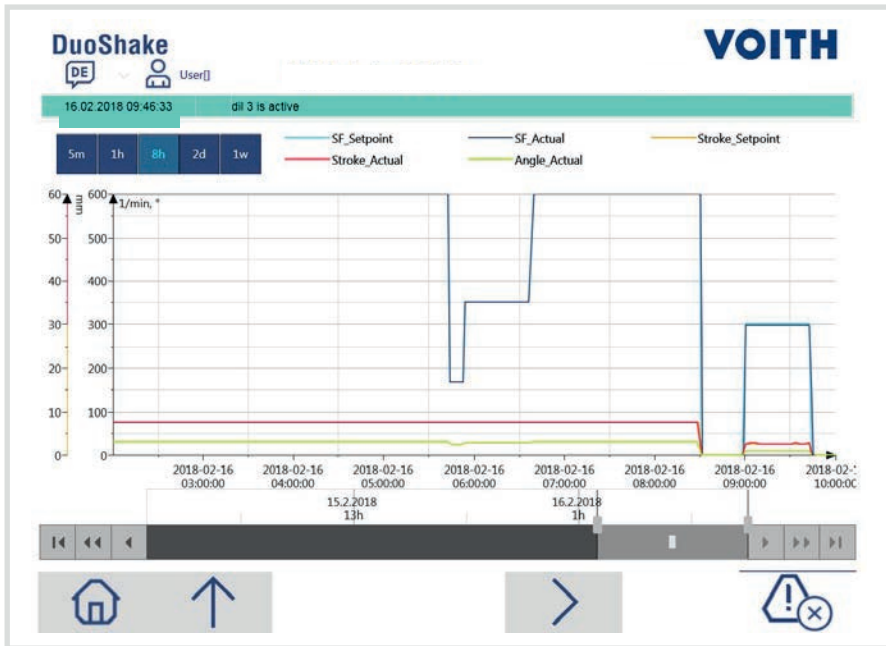


Overview: operating and control functions

- + Simple system integration and start-up
- + Operation at switching cabinet via the DCS (distributed control system) or directly at the paper machine
- + Real-time data monitoring
- + Modern, user-friendly data visualization
- + Remote monitoring using mobile devices
- + Condition-based maintenance

Service and lifespan display





7 Trend display using diagrams

Trend analysis and cloud connection

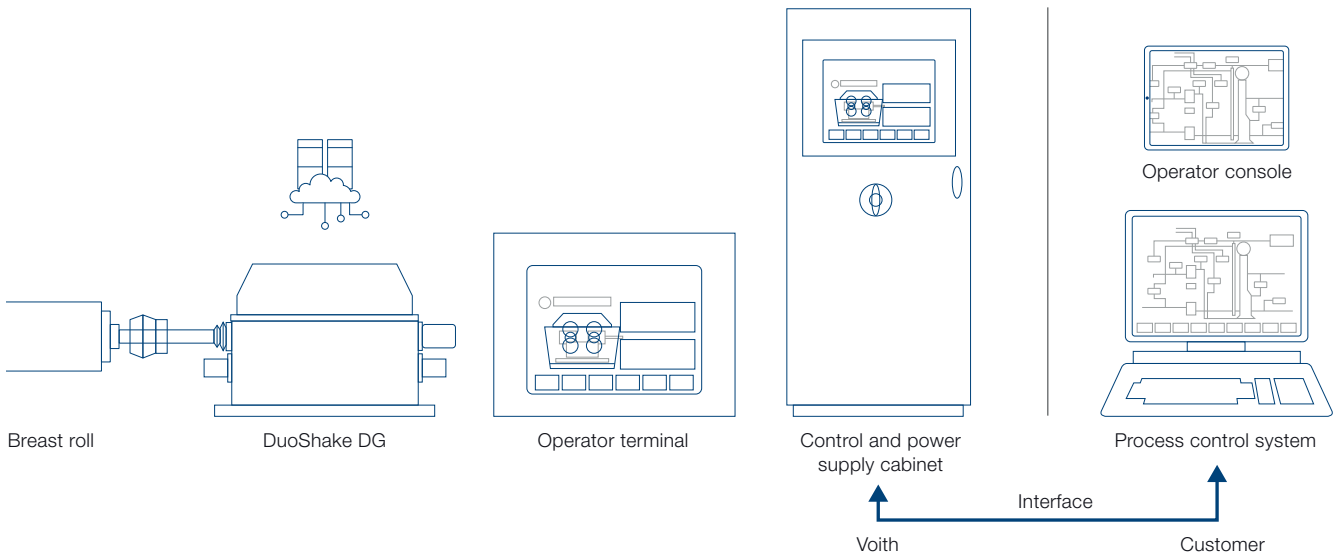
DuoShake DG also has an easy-to-interpret trend function for identifying and analyzing faults. In the event of faulty operation, a fast evaluation allows for immediate intervention. With the help of a context analysis function configured for a longer time period, processes can be systematically optimized.

Optional service from Voith: An interface can be used to provide a connection between DuoShake DG and the Voith digital platform OnCumulus – a scalable, flexible and expandable data hub for the Industrial Internet of Things (IIoT). The transmission of data and trends to Voith and an analysis and tweaking of the operating parameters by Voith experts results in increased availability, which then improves the overall efficiency of the paper machine. In addition, this also provides a way to leverage OnEfficiency applications.

Integrated, customized service

As a full-line supplier and pioneer in the paper industry, Voith is a byword for customized, on-demand service solutions. Voith products and services are perfectly tailored to one another. This means that paper manufacturers benefit from the comprehensive expertise of Voith specialists to consistently meet their production targets in a way that is cost-efficient and sustainable. Generally, our service employees are happy to support you with all questions concerning sheet formation and the entire paper production process.

Items included in the delivery and interface DuoShake DG

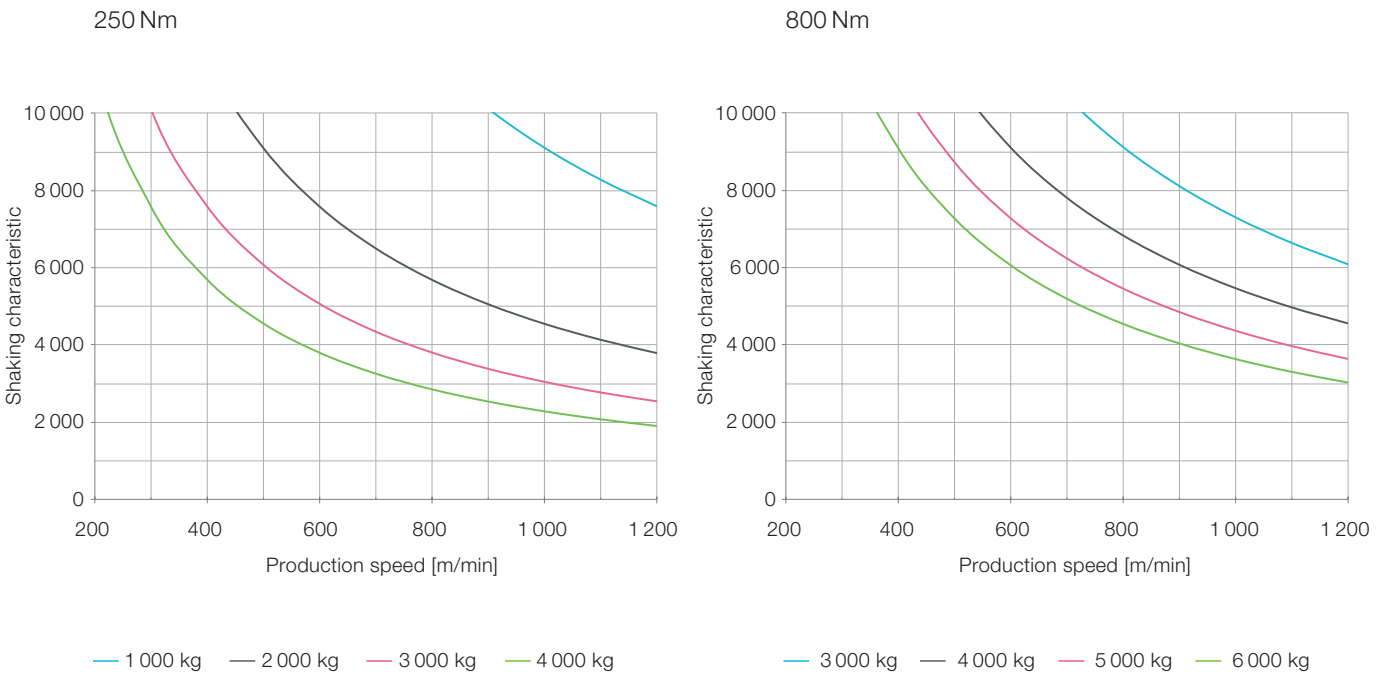


Everything from a single source – scope of supply:

- DuoShake DG
- Voith control unit
- Control voltage supply
- Switching and monitoring devices
- Drive components: frequency converter
- (CFRP) breast roll

Shaking characteristic

depends on production speed



Please click on this [link](#) or scan the QR code to visit our DuoShake DG website:



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How can we support you?
Just contact us via our **webform**.



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