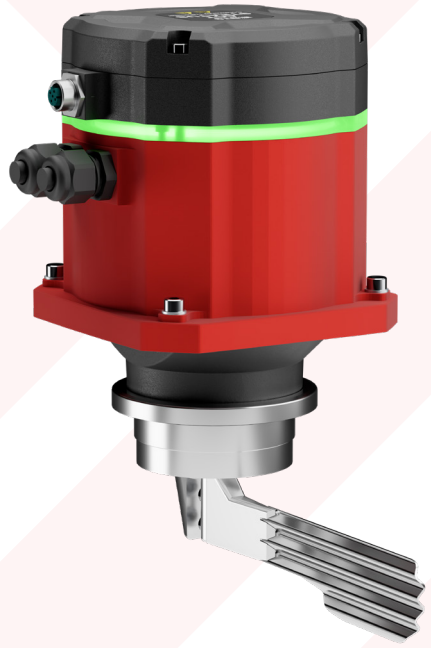
PRODUCT SHEET

# ACT STRATUS

## Amplitude Method Consistency Transmitter



## FEATURES

- Accurate measurement of fiber consistency
- High sensitivity even in slurries with low shear force
- Linear output signal for easy and accurate calibration
- High signal-to-noise ratio, precise and dynamic
- Patented measuring principle

## BENEFITS

- Does not require long calming sections
- Sturdy design for high durability and minimal maintenance
- Easy installation and simple calibration
- Cost-effective performance

## General

The ACT STRATUS is an in-line amplitude method transmitter for measuring consistency of pulp suspensions in the range 1-7 %. ACT STRATUS is based on a unique technique for consistency measurement, using an active sensing element oscillating at its resonance frequency. ACT STRATUS combines measurement of shear force and viscoelastic properties to obtain higher sensitivity and better signal quality than conventional blade consistency transmitters. The transmitter combines a high dynamic sensitivity to fiber consistency with low sensitivity to normal variations in fiber composition, freeness, black liquor content, air content, flow, and pressure.

The transmitter is the result of years of research and development in the pulp and paper industry, built on a well-known reliable mechanical platform.

The sensor's electronics employs modern microprocessor technology with advanced signal analysis. It is operated using the BTG STRATUS Platform. Status of the instrument is visualized over a long distance with the BTG status ring. Settings and follow-up actions are handled with the BTG STRATUS App* or through the large touchscreen display on the BTG STRATUS Field Interface. It works with present and future communication interface requirements, from analog output with HART®** to field buses and OPC UA.

Use QR code or link for more information
**www.btg.com/files/actstratus/**

*) On App Store and Google Play soon
**) Will be released soon

BTG reserves the right to make technical improvements.

## Measuring principle/measurement

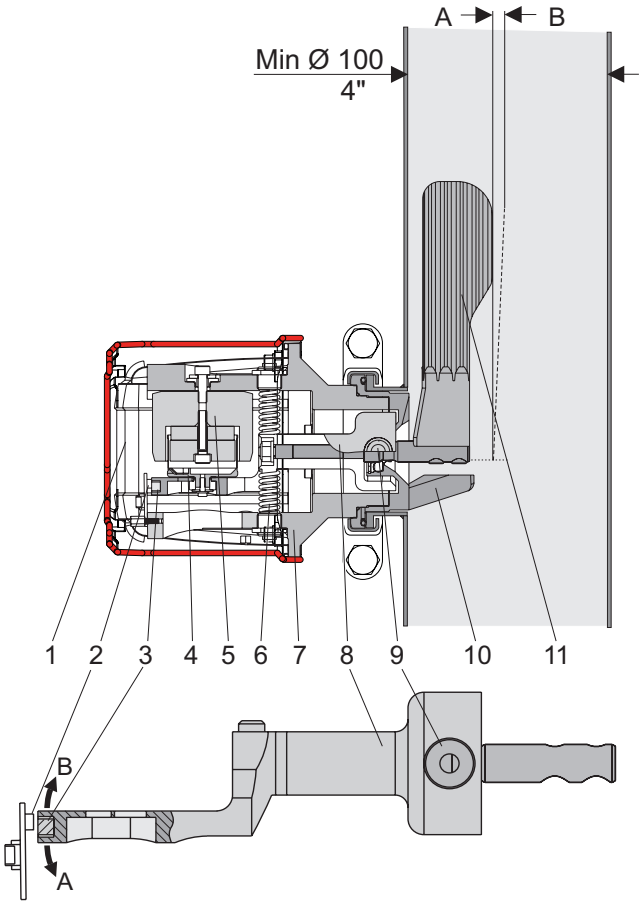
The ACT STRATUS is characterized by its capability of measuring consistency accurately and precisely at even as low as 1 % fiber Cs. The wave shaped sensing element (11) of the ACT STRATUS is connected to an electromagnetic coil (4), positioned inside a magnet housing (5), via a shaft (8). The system is then oscillated at its resonance frequency, resulting in a relatively large amplitude at the blade tip, which is essential for interacting with the fiber suspension in the way characterizing ACT STRATUS high sensitivity to fiber consistency.

The magnitude of the amplitude is directly proportional to the fiber consistency within its range of application. The underlying reason for the improved sensitivity is that, in contrast to conventional shear force transmitters, the ACT STRATUS is not solely dependent on the break-down of the fiber network caused by a blade or sensing element of a rotating shear force transmitter but also depends on the viscoelastic damping effect of fiber network.

Hence, an unsurpassed sensitivity is achieved in the lower consistency range. Furthermore, the measuring principle results in significantly lower disturbances due to grade changes related to e.g. fiber length compared with conventional blade shear force transmitters.

The consistency range of ACT STRATUS is 1-7 % covered with one sensing element. The measuring range will depend on the pulp type.

Depending on the consistency of the pulp, the amplitude of the oscillating sensing element will vary (a higher consistency will result in a lower amplitude). The transmitter is equipped with a fully automatic frequency search system to ensure optimum performance under all conditions.




1. Circuit card
2. Amplitude hall sensor
3. Sensor magnet
4. Plunger coilt
5. Magnet housing
6. Compression spring
7. Frame
8. Shaft
9. Fulcrum
10. Deflector
11. Sensing element

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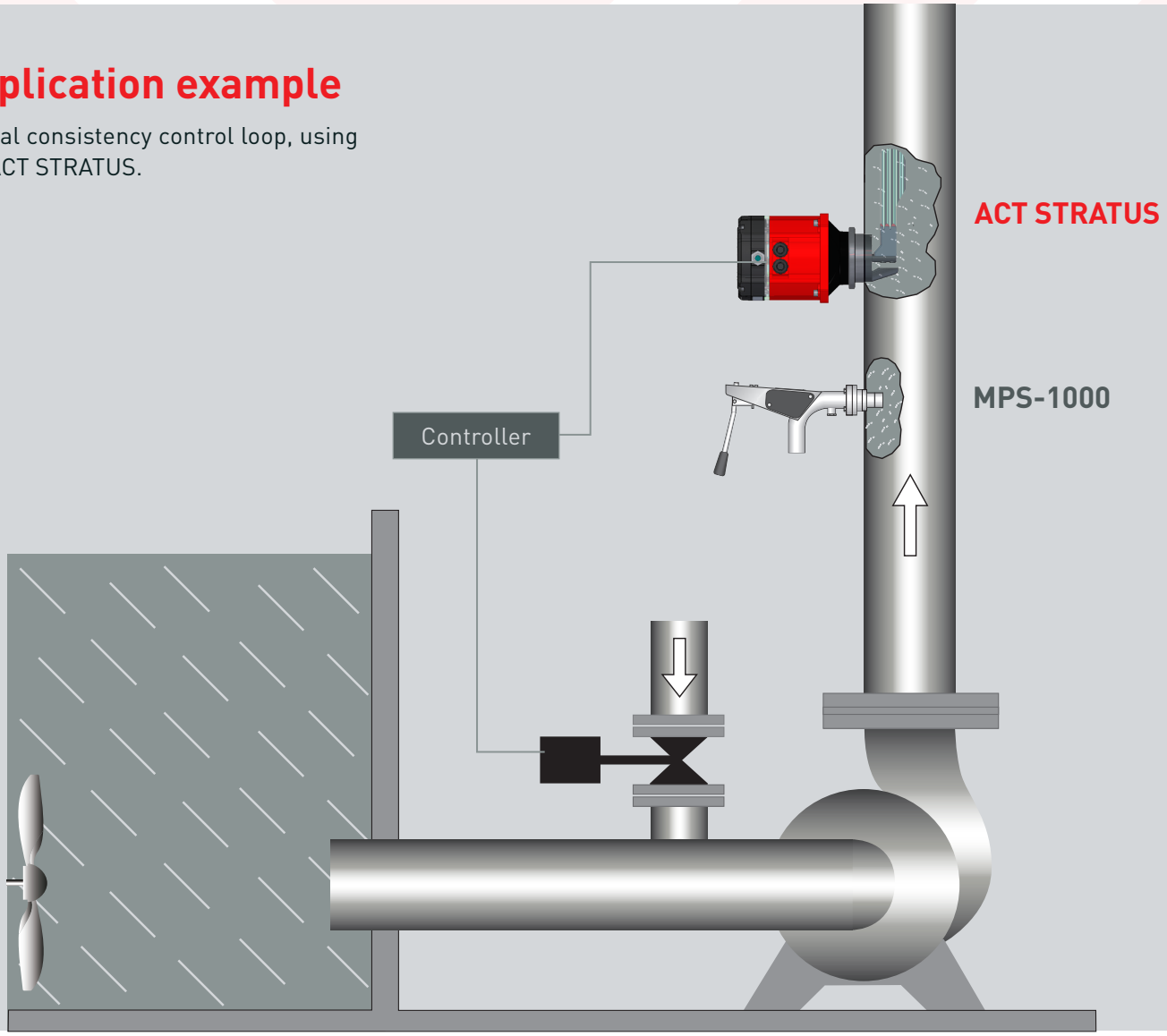
## Application example

Typical consistency control loop, using the ACT STRATUS.




## User interface

For the best user experience, BTG has developed two types of interfaces. The BTG STRATUS App* is the new user-friendly way to set up, calibrate and monitor the ACT STRATUS. It is available for both iOS and Android mobile devices. Using the app, there is no need for a junction box with a display; all connections are made directly on the sensor.

There is also our brand-new BTG STRATUS Field Interface, a traditional robust junction box with a large and user-friendly touchscreen. Both options provide the best, most intuitive user experience, with graphs and easy handling.


BTG reserves the right to make technical improvements.

*) On App Store and Google Play soon

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Amplitude Method Consistency Transmitter

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A Voith Company

## TECHNICAL DATA / SPECIFICATIONS

**Complete technical data is available in the ACT STRATUS user manual.**

## General

**Type**
ACT STRATUS in-line consistency transmitter for pulp suspensions

**Manufacturer**
BTG Instruments AB, Säffle, Sweden

**Measuring principle**
Shear force/viscoelastic measurement. Amplitude measurement by an oscillating sensing element

**Consistency limits**
1 to 7 %Cs fiber consistency

**Repeatability**
σ = 0.004% Cs

**Flow limits**
0.5 to 5 m/s [1.6 to 16.4 fps] depending on application

**Process Pressure Limits**
Max DIN PN25 [25 bar at 20°C / 360 psi at 68°F]

**Process temperature limits**
Min. 10 °C [50 °F]
Max. 100 °C [212 °F]

**Ambient temperature**
Min. 2 °C [36 °F]
Max. 50 °C [122 °F]

**Material wet parts**
Max. 50 °C [122 °F] without cooler
Max. 60 °C [140 °F] with cooler

**Material wet parts**
Wetted part: Stainless steel, EN 1.4541 (AISI 316L)
Electronic housing: Aluminium, painted with epoxy/ polyurethane
Back cover: ABS/PC

**Protective rating**
IPx5, equivalent to NEMA 4X

**Weight**
3.0 kg [6.6 lb] (Field Interface)
3.3 kg [7.3 lb] (Stand-alone)

**Calibration sets**
Up to four separate calibration sets, controllable using a binary-coded switch.

**Alarms and diagnostics**
Status ring for NAMUR NE107 color indication. Drive electronics supervision, high/low temperature, humidity, etc.

**User interface**
BTG STRATUS App* for phone or tablet. Alternative BTG STRATUS Field Interface with large touchscreen.

**Communication**
Analog output, 4-20 mA, active
Digital In/Sample, 24 VDC
Digital Out/Alarm, 24 VDC
10base-T1L SPE
OPC UA over TCP/IP
Bluetooth, 5.0 LE

**Electrical connection**
100-240±10% VAC, 50/60 Hz, Single phase (Field Interface).
24 VDC 27W (Stand-alone).

**Power consumption**
Max. 60 VA *(Field Interface)
Max. 27 W (Stand-alone)

## Safety & directives

**EU-directives**
Designed in accordance with relevant CE standards.

**Quality Assurance**
Quality-assured in accordance with ISO 9001.

## Your local BTG office

Use QR code or link for more information
**www.btg.com/contact/**

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