



**Online  
tension  
measurement**

**RFS<sup>®</sup>**

**The key  
components  
for innovative  
process lines**

# Strength in the details

## Precise, functional, high-performance

### Quality in every aspect: know-how, materials and craftsmanship.

**RFS®** stands for enduring online precision.

The specified and calibrated accuracy remains unchanged throughout the unit's service life and, across wide ranges, is independent of

- the force introduction point, i.e. the sensor is not affected by lever arm action,
- any axial tilt torques which might appear,
- direct axial forces.



The functional principle makes for superb sensitivity while at the same time offering enormous perfor-

mance capabilities. The force acting radially at the shaft journal, along the measurement vector, causes a microscopic, elastic deformation of the complex load cell. This deformation is registered at an exactly pre-determined position by way of strain gauges and is then evaluated electronically.



The high mechanical stiffness of the load cell enables measurement with virtually no excursion.



This tension measurement principle is based on the evaluation of the force applied radially and transferred to the sensor by way of the bearing journal.



This force is determined by the reversing geometry and the line tension.

The highly developed, fully mature technology built into the **RFS®** product family makes the broad performance range possible: Even minute tensile forces, down into the mN range, are registered just as reliably and precisely as large forces of up to 20 kN.

**RFS® – Matchless quality.**



# Well thought through

## Dependable, intelligent, economical

### THE answer to precision tension measurement online: RFS®.

The development of the patented radial force sensor – **RFS®** for short – set a new and leading standard for direct tension measurement: versatile, dependable and with superb precision.

As an all-purpose functional element, this compact sensor fascinates the observer with its maximum in engineering quality.

Reversing points which are already present in a production line can now be modified to serve as direct measurement points. In contrast to the situation in the past, this enables tension measurement without having to install additional guide and measurement rollers, and

thus is gentle on materials and does not impact the production process.

**RFS®** – tension measurement at its best.

The ideal integration capability is based on superior design quality. Specific engineering features and technical properties offer freedom from maintenance and make installation as simple as could be. And this while at the same time carrying out precision measurements right down into the lowest force ranges. It couldn't be better.

**RFS® – A major contribution to value addition in your production process.**



**RFS®**  
Web tension measurement  
with CFK measuring roll

# Skillfully combined

## Compatible, customized, reliable

### Compact in design and open in its concept: An unbeatable combination.

The **RFS®** product family with all its versions covers a bandwidth which matches the requirements of various industries.

Consequently very fine and sensitive materials such as textile fibers, bonding wires or optical fibers will be handled in the same way as films, ropes, wires, cable and many more. Honigmann reversing rollers with easy-turning, precision technology and running surface geometry and finish customized to suit the application guarantee gentle and precise material guidance. And that makes for ideal tension measurement.

Above and beyond the standard journals, the **RFS®** can be adapted ideally to the existing bearing design of customer's reversing idlers by way of specific adapters.

An entire line of sensor models exhibits uniform installation dimensions throughout, regardless of the sensor's rated load. This makes for maximum flexibility in engineering and planning. That's integration made easy.

Special products, technologies and processes require the use of individual measurement equipment, not included in the standard line. That's no problem for Honigmann since the modular concept behind the **RFS®** sensors lays the foundation for customized units, tailored to the specifics of the application. Solutions for a wide variety of tension measurement tasks are available today for many fields of industry and research.

Even more: In addition to use in tension measurement, the **RFS®** is also suitable for measuring every other type of mechanical forces.

It could well be that we already have the solution to your problem on the shelf. Just ask. **RFS® – for your innovations.**

#### **RFS® E Sensor**

*Standard execution  
with 10 mm  
bearing journal*



#### **RFS® E**

*Special solution  
integrated in a  
measuring roller*



#### **RFS®**

*built in a Teflon  
reversing roller*



#### **RFS® Variante**

*for static force  
measurement*



# Honigmann

## Tension management ... for harmonized process solutions

Honigmann expertise is reflected in more than 50 years of innovative performance.

The foundation stone for today's company was laid in 1948 by the firm's founder, Kurt Honigmann, with the invention of the high-frequency "capacitive load cell" – a breathtaking advance at the time. Honigmann quickly came to be known as the industry specialist for electronic tension measurement.

The rapid technological developments in the years which followed formed the basis for numerous patented and highly successful solutions.

Today Honigmann is the top address for tension management

- from the analysis of the problem
- through design and development
- and installation of equipment
- and on to service

all centered on individual customer requirements for processes incorporate optimized tension.

Honigmann – The unique combination of applications knowledge cutting across industrial boundaries, technical know-how, expertise in precision mechanics and customer-focussed approaches to solutions, joined with the advantages of its own development, engineering and manufacturing capacities.

Building in precision and sensitivity in detail, through stability in the unit and its functions, for harmonized process solutions.

**Honigmann**  
**Industrielle Elektronik**  
**GmbH**

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