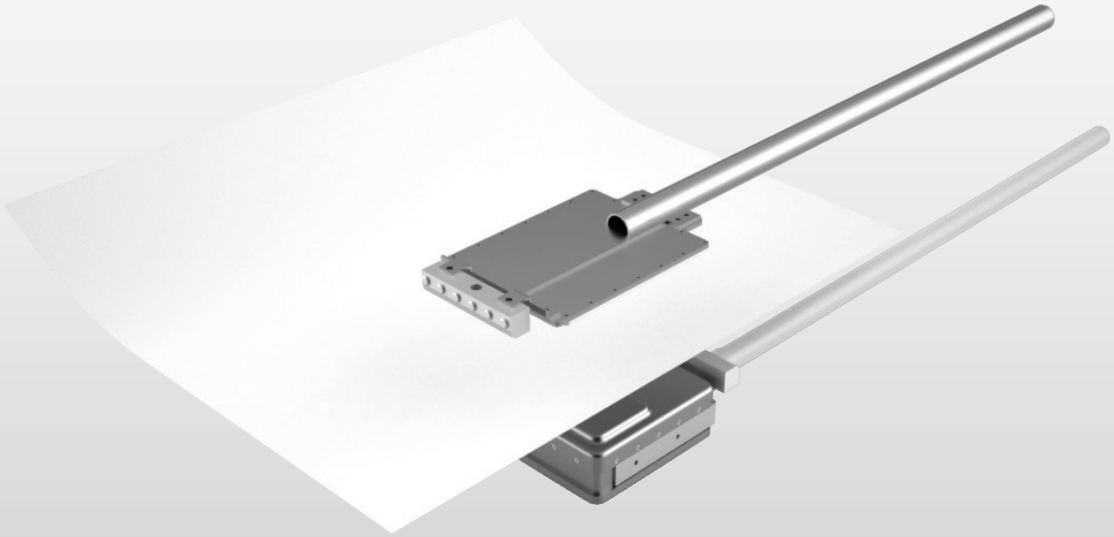
AMS | ACTIVE MICROWAVE SENSORS



R1 | No-contact moisture and consistency meter in the dryer section.

INCREASING QUALITY 1 | **IMPROVING EFFICIENCY** 2 | **MAXIMIZING RUNNABILITY** 3

Quality – Efficiency - Runnability

The paper sheet's water content, when it exits the press section, is critical in the pulp and paper production process because of the direct impact this has on the operation of the dryer section with potentially significant effects on energy consumption and the machine's runnability.

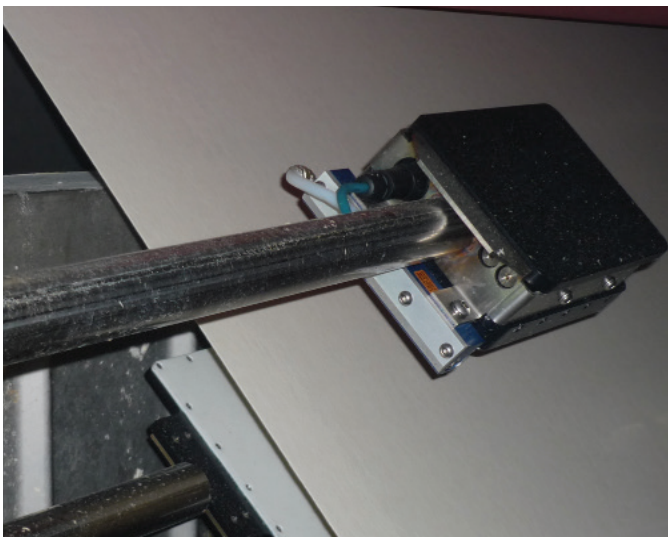
In this section, a no-contact measurement is ideal for directly measuring the sheet of paper.

Unique patented technology

The sensor is based on an advanced measurement concept that uses an innovative microwave reflection technique that delivers high performance in terms of:

- Resolution
- Accuracy
- Immunity from any environmental interference such as vibration, temperature, humidity and dust.

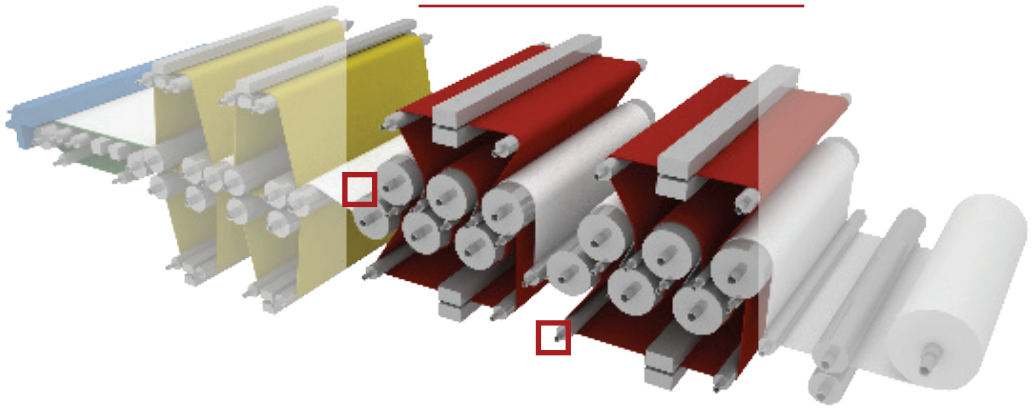
Microwave technology is used to make no-contact measurements of physical and physical-chemical parameters including moisture in the pulp or paper sheet as well as other sheet-like materials found in several other industrial processes. The R1 sensor measures the water content with accuracy, keeping a safe distance from the sheet without



Main Features

- No-contact measurement
- Wide range of measurement from 0 to 800g/m2
- Resolution of 0.1 g/m2
- High repeatability and reliability
- High immunity from colour, temperature and vibration
- Easy installation with a single cable
- Simple machine interfacing with analogue output
- Advanced data processing features with FFT analysis

DRYER SECTION

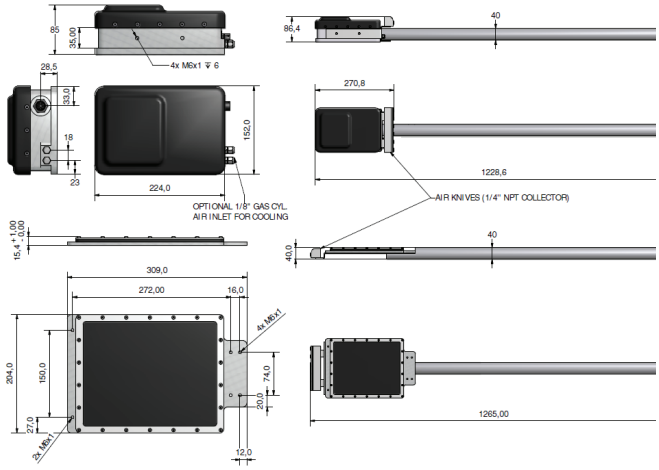


R1

Flexible positioning

R1 No-contact remote microwave sensor, can measure moisture directly on the running sheet of paper.
The R1 can be easily placed at the end of the press section or inside the dryer section with a proper cooling system.

The R1 has two parts: the sensor and the reflector. They are positioned one on each side of the sheet.
The reflector is a completely passive device with no electrical connection needed and a thickness of less than 2cm.

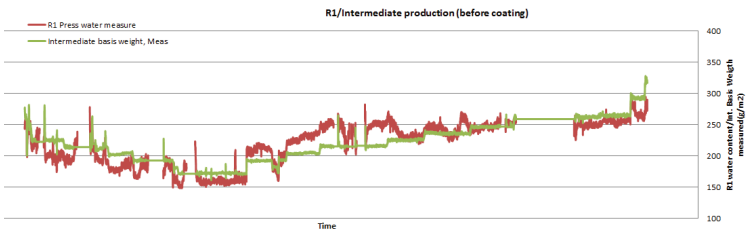


Data analysis with the AMS manager

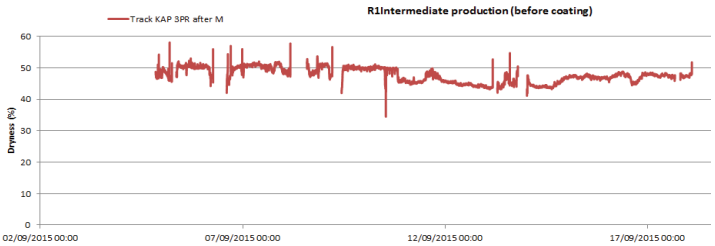
The R1 sensor can make very fast measurements. The data, in digital form, is acquired by a computer and then processed and stored.

Thanks to the system's accuracy and high rate of measurement, advanced analysis (FFT) can be performed on the raw moisture data.

This information can help isolate mechanical issues in the process such as unwanted vibration.
The data collected from each sensor is saved in memory for easy review.
Easy connection to the existing mill control system through flexible, standard, analogue DCS/QCS output (VOLTAGE or CURRENT).



Weight



Consistency

Technical specifications

Measurement specifications

Water content measurement range		*g/m2 0 to 800*
Resolution	*g/m2 0,1*	
Sample rate		*Sample/sec 40 max*

Enviromental

Operating temperature		*°C 10 - 60*
Protection grade	*IP 67*	

Mechanical Specificatio /R1 Sensor

Weight	Kg *2,5*
Dimension	*mm 222 x 85 x 150*

Mechanical Specificatio /R1 Reflector

Weight	Kg *0,95*
Dimension	*mm 2309 x 204 x 12*

Accessories

- 7m male soriau pigtail
- Air knives
- Teflon coated aluminium body
- Brackets with 1m

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