

Microwave measurement device

Continuous In- Line measurement of dry matter

HK2



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Description:

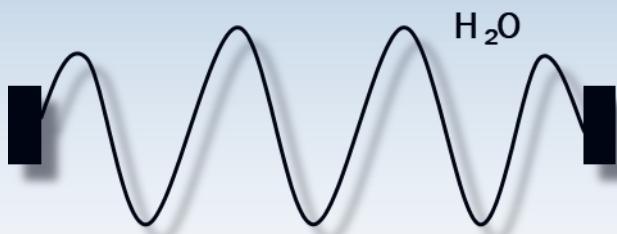
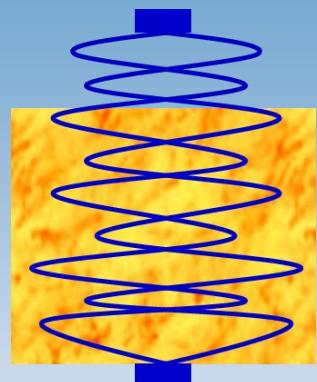
At the microwave measurement technology an electromagnetic wave with very low energy is generated. This signal is coupled via an antenna into the product.

Depending on the dielectric properties of the product the signal propagates in the product. After the signal has passed the product a second antenna receives the signal (Transmission).

Amplitude and phase shift of the received signal are an expression for the water content or dry matter of the product.

The microwave measurement is very stable and it has a quick response to product changes.

Transmissions signal passes through an in-homogenous product



Conditions for a successful measurement:
The product contains NO SALT and there is NO METAL between the antennas!

The measurement is contactless, the measured values of the %, %H₂O, %TS, Bx, g/cm³, g/l or mg/l content are available as digital and analogue values.

The HK2 is applicable in different industries like sugar-, sewage plant- and building material industry.

Because of further increasing quality requirements after ISO and EU standards, the industries have an enhanced demand for improved quality control, standardization and In-Line-trend observation.

Advantages:

- State-of-the-art microwave technology
- Real time measurement
- Continuous monitoring over the whole production
- Production with constant and documentable quality
- Modular design provide robust measurement
- Early detection of fail production
- Vibrations do not effect the measurement results
- Remote from PC or with separate remote control
- Easy calibration through one point calibration
- Non-destructive measurement
- No moving parts
- No wear
- Maintenance free

Applications

**HK2 spiral antennas and PT100
Sludge**



**HK2 pin antennas with cleaning function
Sugar**



**HK2 pin antennas and PT100
Building material**



Evaluation unit

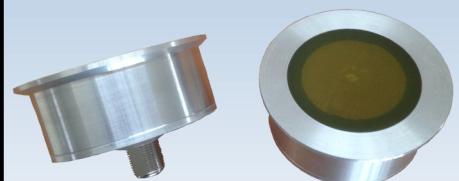
Antennas

Technical data evaluation unit HK2:

Housing:	Stainless steel / Aluminum die casting
Size H x W x D:	500 x 300 x 170 mm / 180 x 180 x 100mm
Weight:	ca. 15 kg / 8 kg
Protection Type:	IP66 / NEMA 4 / IP65 / NEMA 4
Power supply:	100 - 240 V/AC optional 24V/DC – 50/60 Hz – max. 200mA
PC-interface:	RS232 or RS485
1 Analog output:	0/4 - 20mA / isolated 1500V opportunity 2. analog output
1 Analog input:	option: NTC (10 kOhm), PT100
1 Relays contact:	option: max. 5A / 250V
PROFI-BUS-DP:	optional
Operating:	6 in membrane keypad integrated soft keys
Display:	2x24 Sign LCD, LED– backlight
Environmental temperature:	-20°C - +85°C

3A Spiral antennas

Size:	Ø 75 x 33 mm
Material:	Stainless steel, FR4
Connection:	HF- Cables



Technical data antennas:

Material:	Stainless steel	
Size antennas:	Ø 16 x 195 mm	
Flange	standard	DN65 / PN6
	cleaning:	DN65 / PN16
		Any other flange on request
Antenna cover:	Standard: PP up to 120°C	
	On request: Teflon up to 170°C	
	PEEK up to 250°C	
Product temperature:	Standard: >0°C - +120°C	
Connection:	HF- Cables	

Directives:

The HK2 is CE-conform, according to the followings directives:

- EMC directives 2014/30/EU:
 - generic standards EN 61000-6-2
 - generic standards EN 61000-6-4
- Low- voltage directives 2014/35/EU
- RoHS directives 2011/65/EU

Scope of supply:

All HK2 are supplied with sensors / antennas and evaluation unit.
At the commissioning, the operating personal gets a device instruction / training.