EN

Superior with Solids

SWR

ProGap

Microwave barrier

Product Information

Using / Function

The microwave barrier ProGap is a universally and flexibly usable sensor, consisting of a transmitter and a receiver based on the latest microwave technology. It is brought into action for level detection or for positioning of items.

The microwave barrier is a contactless measuring method. It can be installed in bunkers, ducts, shafts or at free-falling stretches. Depending on the model the range is either 0…4 m or 0…18 m. Higher ranges are as well possible but have to be discussed. In case that container sides, housings or ducts are not of metal, it is possible to measure from the outside.

By means of appropriate windows of non-metallic material, the metering thus can be completely decoupled from the process. That's particularly interesting for the measurement of aggressive, abrasive or bulky material or at extreme pressures and temperatures.

The ProGap can also be applied in difficult circumstances like high temperatures and pressures by means of a process-adapter (see page 4).
By using microwaves there is a high insensitivity to built-up on the sensor window.

Applications – practical examples

- **Detection of beer foam**

Ascending beer foam is detected through a quartz glass plate in order to avoid an unwanted development of foam which could exceed a problematic limit for the whole process.

- **Monitoring of garbage incineration**

Due to its lack of sensitivity regarding build-up on the sensor window, the ProGap is successfully used in garbage incinerating plants.
The job of the ProGap is to control the feed of garbage via a feeding chute into the burner.

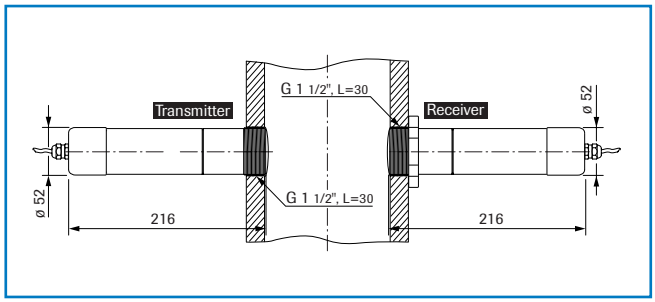
- **Dosage of fluff in a cement plant**

The ProGap executes a permanent Min/Max control of the dosage of fluff into the bunker.

Min = filling start
Max = filling stop
Max-Max = overfilling protection

Installation

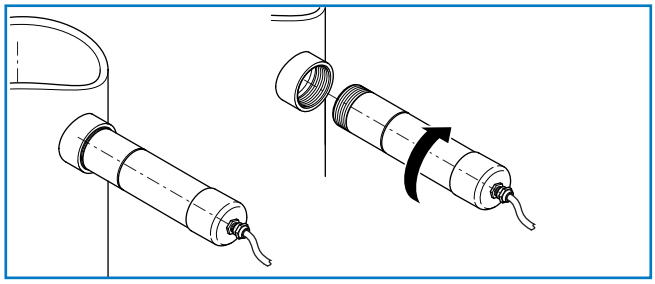
Transmitter and receiver are installed by screwing them into a G 1½-inch-screw neck.
The fitting position of the devices is arbitrary. Important is that transmitter and receiver are positioned precisely to each other. The polarisation mark of each device must point in the same direction. The adjustment is made by means of a counter-screw fitting.



Dimensions Transmitter and Receiver + Installation

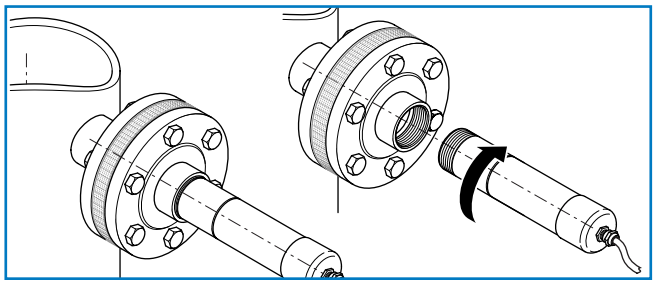
Connection

Connection of the power supply is made at transmitter and receiver. The relay output is made available at the receiver.


Thread mounting

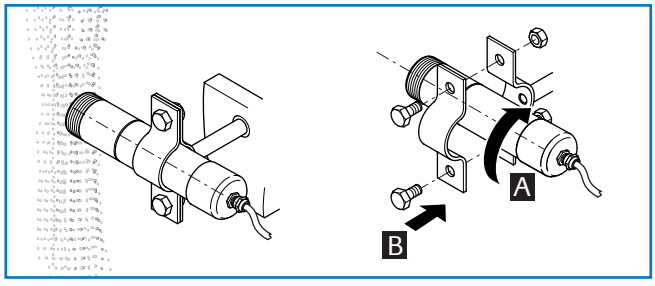
Commissioning

The operating elements are located easily accessible in the receiver housing. Switching sensitivity and response time will be adjusted. Due to the field intensity display, integrated in the receiver, the installation is very easy and fast. No additional evaluation unit is necessary.


Mounting with separating flange

Technical data

Material	Housing: Stainless steel 1.4571 Sensor-Isolation: POM
Protective system	IP 65; DustEx (optional)
Working temperature (Process temperature)	-20 … + 80 °C -20 … + 220 °C (with process-adapter) Max. 1000 °C (with ceramic-flange)
Ambient temperature	-20 … + 60 °C
Working pressure	Max. 1 bar Max. 20 bar (with process-adapter)
Detection range	0 … 4 m 0 … 18 m > 18 m (on demand)
Power supply	24 V DC (-10/+15%) 24 V AC (-10/+15%)
Power consumption	Approx. 1.8 VA
Current consumption	Max. 100 mA
Relay output max. ▪ Voltage ▪ Current ▪ Capacity	 120 V AC / DC 1.25 A 150 VA, 50 W
Response time	0.25 …5 s (continuously adjustable)
Measuring frequency	K-Band 24.125 GHz (± 100 MHz)
Transmitting power	Max. 5 mW
Weight	Transmitter: 1.1 kg Receiver: 1.1 kg



Mounting with pipe clamp

* The ProGap S (remote) is certified to ATEX 21, 22 for use in dust applications.

Use as pressure adapter / temperature adapter

The ProGap sensor itself can be used at pressures of up to 1 bar and temperatures of up to 80 °C.

A pressure adapter from POM, for higher temperatures a temperature adapter from tecapeek (to 220 °C) is available to you for higher pressure (to 20 bar).

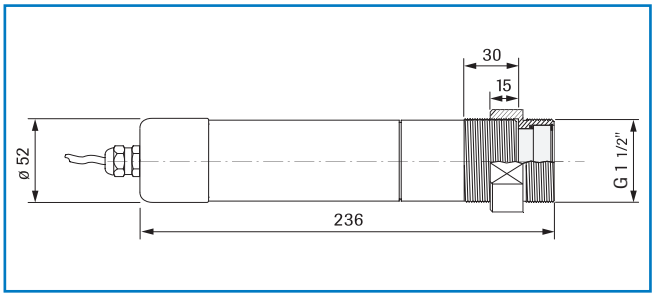
Mounting of pressure adapter / temperature adapter

The mounting of the pressure / temperature adapter is identical. He is screwed into a welded G 1½ inch thread neck, provided by the customer.

The housing of the ProGap is screwed into the G 1½ inch female thread of the adapter.

Technical data

Material	Stainless steel 1.4571, POM diaphragm	Stainless steel 1.4571, Tecapeek diaphragm
Temperature	-20…+80 °C	Max. +220 °C
Pressure	Max. 20 bar	Max. 20 bar
Thread	G 1½-Zoll on both sides	G 1½-Zoll on both sides
Wrench width	55 mm	55 mm



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SWR engineering Messtechnik GmbH
Gutedelstraße 31 · 79418 Schliengen (Germany)
Fon +49 7635 827248-0 · Fax +49 7635 827248-48 · www.swr-engineering.com