

Non-Contact capacitive gauge measurement

# C-Scan

for barrier / sticky film  
O-Frame version



## QUALITY ASSURANCE WITH PLAST-CONTROL PROFILE MEASUREMENT

Typical on-line gauge measurement on blown film lines is done with capacitive measurement sensors.

The robust and reliable technology offers the user some advantages compared to other types, e.g. radioactive devices.

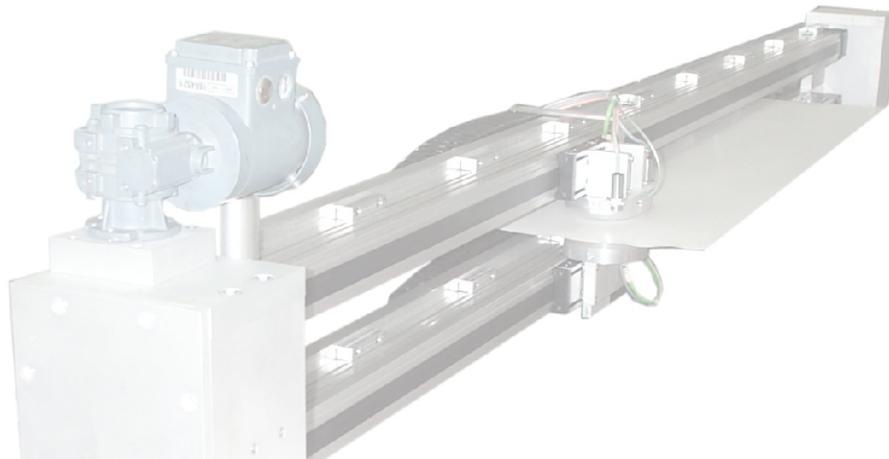
On the other hand, the capacitive method was not useable for barrier film.

The reason is that PA and EVOH does not respond with a linear measurement and depending on the film temperature an over proportional signal as compared to the other resins makes measurements incorrect.

When the measurement point is close to the calibration basket, the film is still too hot and the temperature not consistent and therefore the measurement incorrect.

The new c-scanner works with a compensated capacitive sensor (C-HEAD). The frame is installed after the haul-off and scans across the double flat film.

The c-head is floating on an air cushion so the film moves without contact through the measurement point. The position of the film within the measurement gap is nonrelevant. The sensor measures the thickness of the tubular film.



Measurement range	18...250 µm / 0,7...10 mil
Resolution of the sensor	0,1 µm / 0,004 mil
Max. working width	2200 mm / 86,6" (C-frame), >2200 mm / 86,6" (O-frame)
Max. traversing speed	25 sec (small web), 35 sec (wide web) for max. 2200 mm / 86,6"
Max. line speed	150 m/min (492 ft/min)
Oscillating time haul-off	15...50 min
Tooth counting of haul-off	Initiator, min. 512 teeth necessary
Measurement of haul-off speed	via gravimetrics or separate pulsing unit
Early web break detection	web break sensor at calibration basket
Temperature range	20...55°C / 68 °F...131 °F
Air pressure	4 - 6 bar / 58...87 psi
Service	optional Modem
Power supply	100 - 240 VAC, 50/60 Hz, 16 A

- Capacitive - translucent principle for the profile measurement of blown films and cast films.
- Contact free through air cushion on both sides.
- Immune against fluctuations of temperature, shaking and strong sticking film surfaces.
- Preferred to measure the production of barrier films (EVOH / PA).
- Fast measurement.

### Non-Contact capacitive gauge measurement

Via a modified fourier transformation it is possible to calculate the transversal single profile of 360 ° circumference. The haul off needs to oscillate at a constant speed to make this calculation.

Optionally a part rotation of the haul off is possible, installations on lines with rotating dies are not possible.

By installing the measurement frame after the haul-off, the film is cold enough to measure barrier film with EVOH and PA contents.

After switching on the profile measurement or after a profile control action it takes 4 to 8 scans to receive a complete new profile.

The measurement scan stops just before the edges in order to prevent false measurements due to wrinkles.

Due to the measurement principle it is not possible to measure metallic or conductive film.

Gusset films cannot be measured. The material distribution must be homogeneous.

The measurement system is also available for machines with vertical haul off oscillation.