

Filmtest 3G



Offline Thickness Gauge
for Process Optimization
and Quality Control

Filmtest 3G

The Filmtest is an offline measuring system for extruded films, used for process optimization and quality control labs. The combination of several measuring functions in an offline system makes the Filmtest a valuable tool for a professional quality control.

Due to fast and easy handling it is practical to perform measurements at every roll change. Consistent measurement means you can provide your customer with more assurance that delivered production is within specification.



The operation of the system is easy enough that any operator can do it. The Filmtest helps to reduce the work in the laboratory. For example, in addition to the thickness measurement, the unit weight of the sample is also calculated eliminating the manual step of weighing the film.

The Working Principle

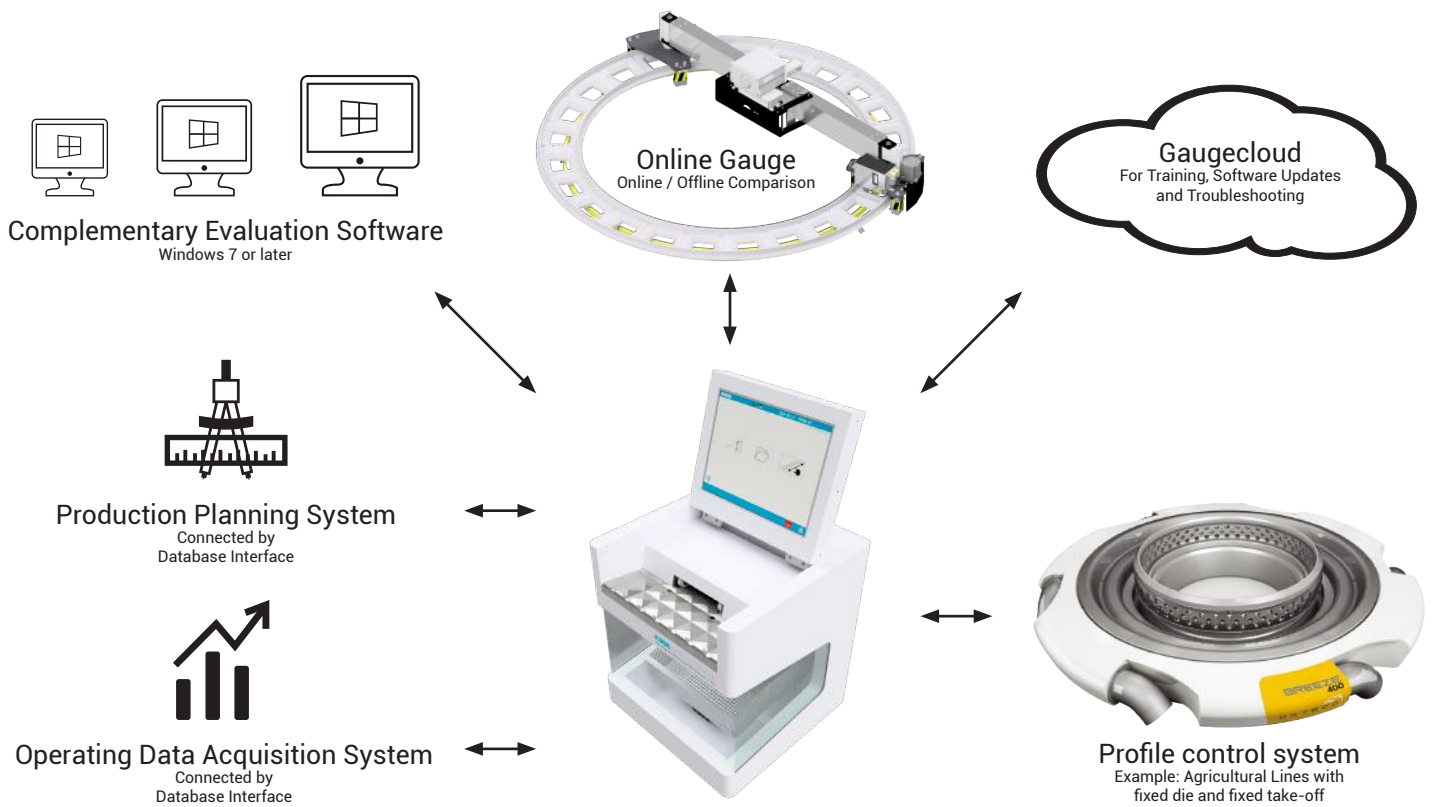
- A sample of the film is cut by means of a cutting plate, that guarantees that the exact width of the sample is 150mm
- The „Variospeed“ sample scanner uses optical sensors to track the film edges; automatically transporting the sample through the capacitive measuring device
- The length and the weight of the sample is measured
- The square meter weight is determined using length, width and weight, then the average thickness is calculated based on the density
- The thickness profile is measured with a high resolution capacitive sensor



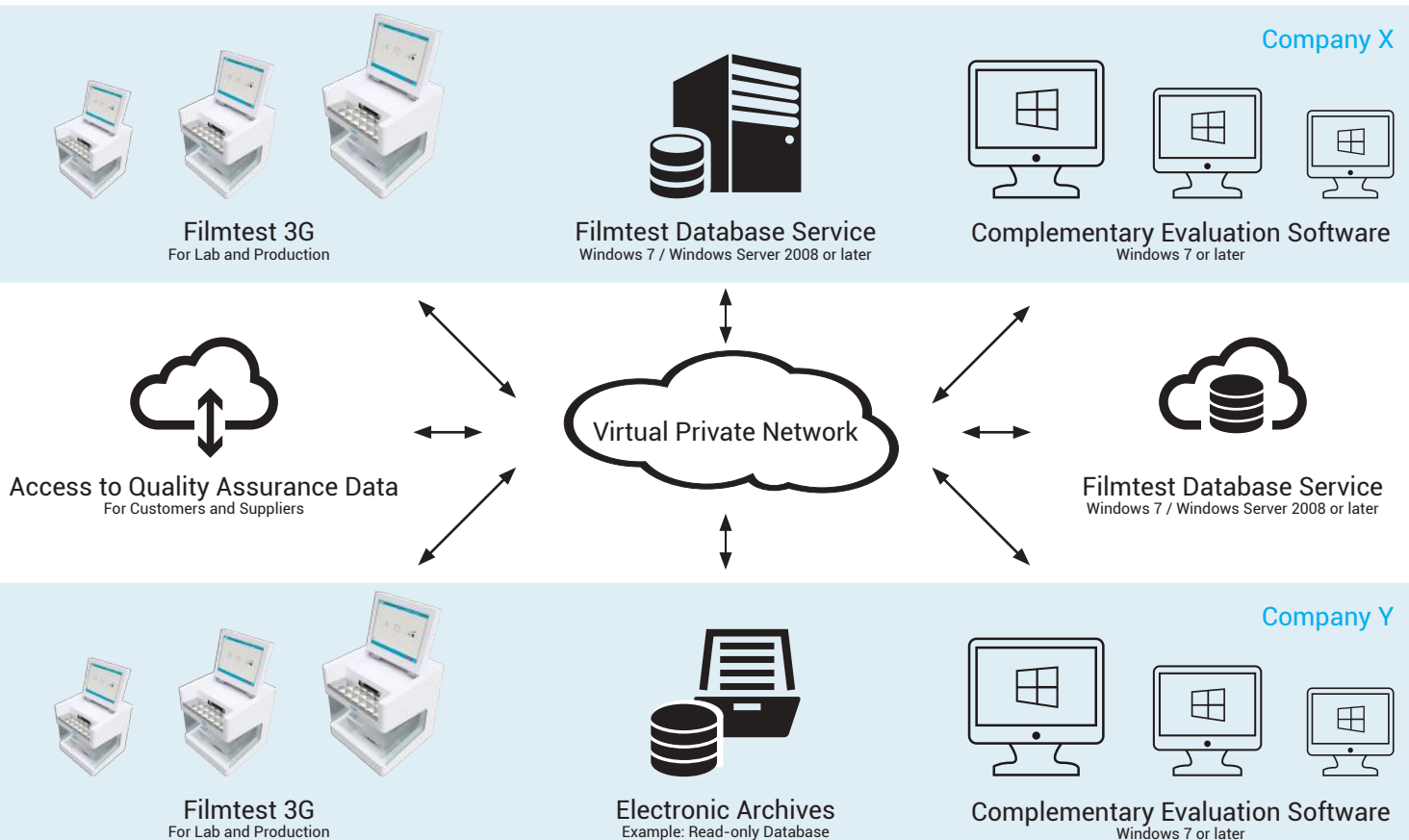
Advantages

- The sample of the film does not need to be formed into a loop, it will be transported through the capacitive measuring device
- Film samples that are cut into several pieces can be measured one after the other, the software will put the measuring data together and will create the complete profile
- The square meter weight is determined using length, width and weight. Then the average thickness is calculated based on the density. This method allows a much more precise thickness profile measurement than other systems on the market
- All measuring values will be registered during the same measuring operation

Integration and Network



Enterprise Solutions



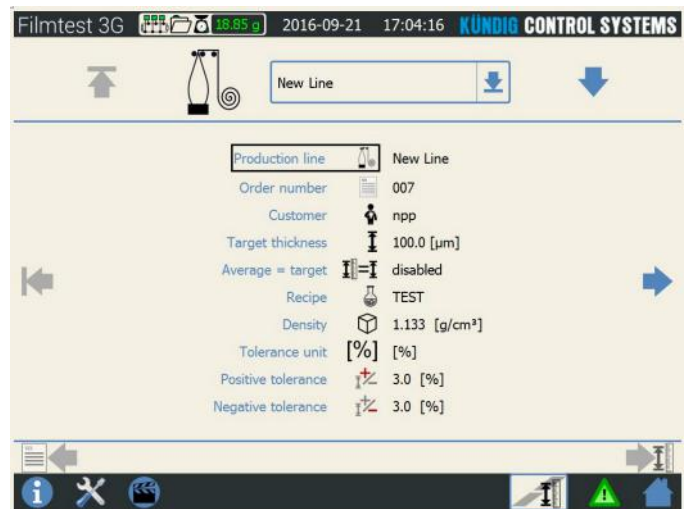
The Software

Before the Measurement

Introduce the nominal thickness, density, receipt and tolerance. When the film is measured again, all these settings will be automatically suggested.

The menu can be completed with up to six additional fields, that can be entered according to the production or operator's desire.

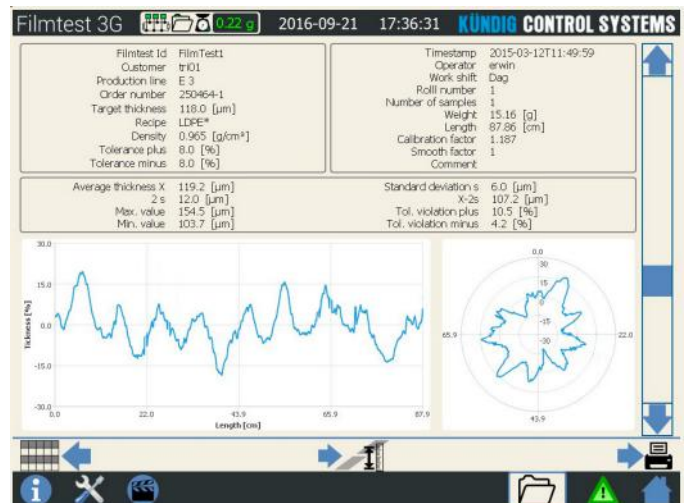
If the sample consists of several pieces, they can be measured one after the other, the software will create the complete thickness profile.



After the Measuring

The measured profile is instantaneously displayed as either relative or absolute thickness. The zoom function allows the operator to analyze even the smallest deviations.

In case that the film sample has a crease, the operator can use a filter to eliminate the crease and then recalculate the profile.



The Archive

All measurements will be automatically archived. A search function is provided to ensure operators can easily retrieve archived data.

The evaluation software, running on a Windows PC, allows detailed analysis of each measurement. The data can be also exported from the archives. The entire archive with its data is possible to be stored in another network drive.

Timestamp	ProductionLine	OrderNumber	ReelNumber	TargetThickness [µm]	AverageThickness [µm]	FilmtestId
2015-03-12T09:03:31	E10	250872/1	16	120	118.8	FilmTest1
2015-03-12T08:55:59	E 9	250565/01	4	122	118.7	FilmTest1
2015-03-12T08:29:54	E 8	243586-1	25	170	167.8	FilmTest1
2015-03-12T08:12:29	E16	250589-1	4	45	44.1	FilmTest1
2015-03-12T08:04:17	E14	250220/01	5	120	122.3	FilmTest1
2015-03-12T07:44:20	E 7	250613-1	21	104	106.5	FilmTest1
2015-03-12T07:43:06	E 5	250359-1	9	110	106.2	FilmTest1
2015-03-12T07:40:50	E11	250629/01	5	120	120.2	FilmTest1
2015-03-12T07:30:52	E 9	250565/01	5	122	117.1	FilmTest1
2015-03-12T06:44:05	E 1	250461-1	1	120	122.9	FilmTest1
2015-03-12T04:47:07	E10	250872/1	15	120	119.5	FilmTest1
2015-03-12T04:17:47	E11	250719/010	1	124	124	FilmTest1
2015-03-12T04:11:39	E 3	250463-1	1	118	117.9	FilmTest1
2015-03-12T03:45:37	E 3	250463-1	1	118	118	FilmTest1
2015-03-12T03:33:59	E 9	250565/01	1	122	120.5	FilmTest1
2015-03-12T03:28:34	E 3	250463-1	1	118	118.7	FilmTest1
2015-03-12T03:15:12	E 9	250565/01	1	122	122.3	FilmTest1

Profile Genius

This software tool can especially assist in detecting reasons for thickness profile variations in the blown film extrusion process. Using this information enables the operator to focus in on the correct process areas to reduce the profile variation.

Technical Data Filmtest 3G

Electrical interface values

Power supply	110 - 240 VAC, 50/60 Hz
Power consumption	max. 100 VA

Measurement

Measuring principle	Capacitive thickness measurement Suitable for all electrically non-conducting material
Sample size	150 mm wide
Measuring range	10 to 300 μm
Linearization error	< 0.5 %
Measuring interval	50 ms
Resolution	0.1 μm
Accuracy average thickness	5 to 10 μm \Rightarrow 0.2 μm thicker than 10 μm \Rightarrow 1 %
Linearity	better than 2%

Ambient conditions

Ambient temperature	23 °C \pm 2 °C
Measured film	LDPE-Film at approx. 50 °C

Questionnaire application technology

Company

Address

Zip Code

City

Country

Contact person

E-mail

Phone

Fax

We are interested in

- | | |
|---|--|
| <input type="checkbox"/> Online thickness gauge | <input type="checkbox"/> Width measurement |
| <input type="checkbox"/> Online thickness gauge and automatic profile control | <input type="checkbox"/> Width measurement and control |
| <input type="checkbox"/> Offline system for film thickness | <input type="checkbox"/> Meter weight control |

Specifications of existing line

Film width:	Min. _____ mm	Max. _____ mm
Film thickness:	Min. _____ μm	Max. _____ μm
Throughput:	Min. _____ kg/h	Max. _____ kg/h
Line speed:	Min. _____ m/min	Max. _____ m/min

Extrusion:	<input type="checkbox"/> Monoextrusion ____ Components	<input type="checkbox"/> Coextrusion ____ Layers ____ Components per layer
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Processed materials: _____

Width of roll at haul-off: _____ mm

Power supply: _____ VAC _____ Hz (single phase)

Existing measuring and control units:	<input type="checkbox"/> Thickness gauge	<input type="checkbox"/> Profile control system
	<input type="checkbox"/> Width measurement	<input type="checkbox"/> Width control
	<input type="checkbox"/> Meter weight control	<input type="checkbox"/> Line speed control

Brand of existing line: _____

E-mail: kcs@kundig-hch.ch

Thickness Gauges for Blown Film Lines

K-500 Rotomat KT

Capacitive thickness gauge for a wide range of films

KCF-700 Rotomat KT

Non contact thickness gauge for sticky and sensitive films

K-NDC Rotomat KT

Nuclear thickness gauge for barrier films

S-100 Twin

Capacitive thickness gauge for barrier films

K-300 CF Gauge

Thickness gauge for quality supervision

S-50

Thickness gauge for quality supervision

Thickness Gauges for Cast Film and MDO Lines

KNC-600 Linear Scanner

Non contact thickness gauge for cast film and MDO lines

Width Measuring / Control System for Blown Film Lines

FE-8

Width measurement and control for lines with or without IBC

Quality Control

Profilstar.Net

Visualization for quality supervision and control

Filmtest 3G

Offline measurement for quality control

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