



KÜNDIG CONTROL SYSTEMS
The Gauge Manufacturer for Film Extrusion  **SWISS
MADE**

FE-8

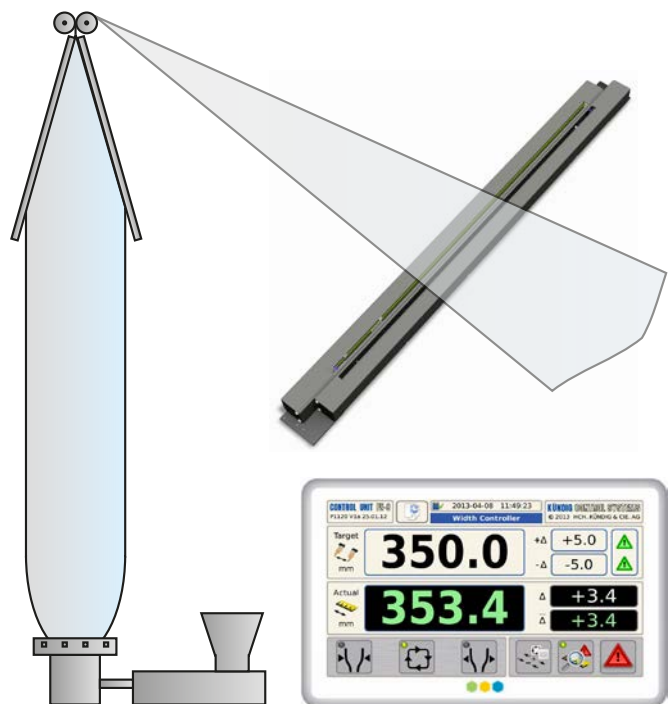
Width Gauge and Width Control

■ FE-8

The FE-8 is a modular system to measure and control the layflat width on blown film lines.

The non-contact measuring bar detects the edges of the film by two infrared sensors. In this way it calculates the layflat width. The advantage of this measuring method is that the real layflat width is registered, after the shrinking of the film. Hence the FE-8 is an important device also on lines where the bubble circumference is measured.

For a precise, non-contact measurement it is recommended that the bar is mounted close to a roll of the line. Ideally, it can be mounted between two designated rollers.



■ The Basis

The measuring bar and the power box are the main components for any width measuring / control system. This unit calculates the actual width and submits the measurement data to the display unit or control system, depending on the machine configuration.



FE-8 Measuring bar



FE-8 Powerbox

■ The adjustable measuring bar

A FE-8 measuring bar consists of 2 half bars. These bars can be mechanically adjusted, according to the required layflat size.



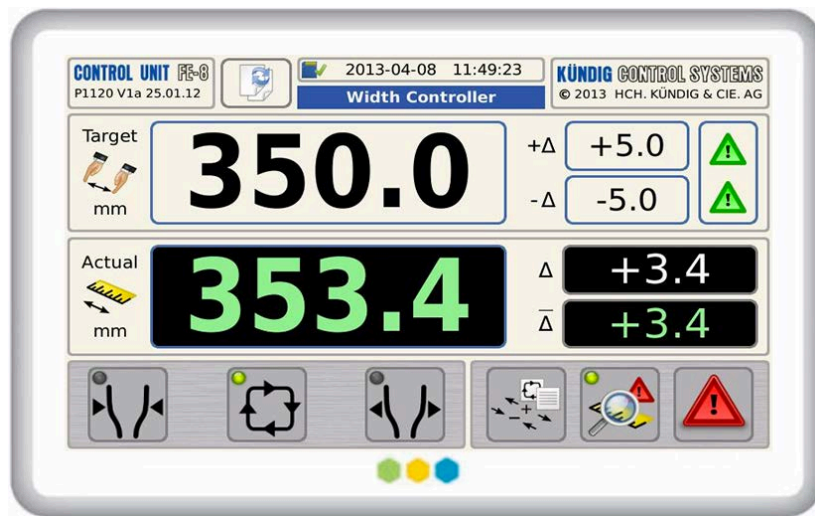
Two half bars of one size can cover up to 9 different layflat ranges.

The mounting positions are given, once the mechanical adjustment is done the measuring bar does an initialization and recognizes the size automatically. That ensures always a precise measurement without manual calibrations.

Size [mm]	Possible Settings	Layflat Range min. - max. [mm]	Installation Size [mm]
740 - 1190	1	20 - 300	740
	2	20 - 450	890
	3	20 - 500	940
	4	20 - 550	990
	5	20 - 600	1040
	6	20 - 650	1090
	7	20 - 750	1190
1340 - 2240	1	20 - 900	1340
	2	20 - 950	1390
	3	20 - 1150	1590
	4	20 - 1300	1740
	5	20 - 1600	2040
	6	20 - 1800	2240
2640 - 3240	1	290 - 2200	2640
	2	690 - 2600	3040
	3	890 - 2800	3240

Other sizes or contact type bar on request

■ Options for automatic width control



FE-8 control unit



Lines with IBC

The FE-8 control unit comes with 2 digital outputs, which are used to control the calibration cage.



Lines with fixed or oscillating dies

For this application the Tubair is available, which is controlled by the FE_8 control unit. The Tubair inflates or deflates air into the bubble to reach and maintain the target size.



Lines with continuously rotating dies

As there is no air pressure available, the FE-8 control system comes with the Blowair. This device has the same function as the Tubair but doesn't need air supply since it has a built-in air compressor. A wireless connection to the FE-8 control unit is standard with this control mode.



Other applications

Don't hesitate to contact us if your application is different. The FE-8 has a wide range of possible interfaces which are not listed here.

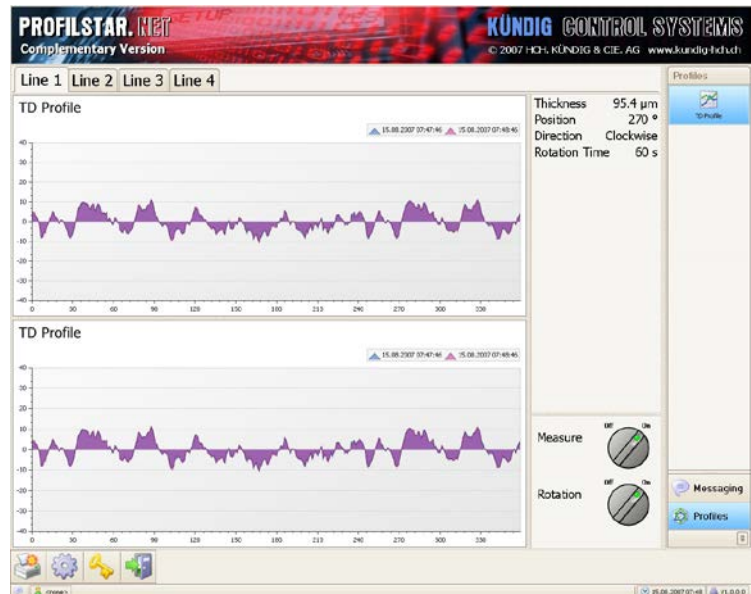
■ Connections and interfaces

The FE-8 offers a wide range of connections and interfaces, on both devices Powerbox and Display unit. For a simple width measurement the Powerbox can be straight connected to the control system of the line. In case of a width control system, the FE-8 may be connected to the line if required. Both devices offer Ethernet or optional RS-422.

PROFILSTAR.NET

The PROFILSTAR.NET is a complete visualization system for process optimization and quality control. Up to 16 lines, equipped with Kündig thickness gauges and / or layflat control systems, can be connected to one PROFILSTAR.NET unit.

The FE-8 can be connected by Ethernet, for existing Profilstar.NET units there is also RS-422 available.



PCD-LINK via RS-422 or UDP/IP Ethernet

The proven PCD-LINK protocol, used for the communication between control system and any Kündig measuring device, is now available via RS-422 and also via UDP/IP Ethernet with the FE-8. So it is still compatible with existing host computers but at the same time offers a new and very cost efficient version.

Both ports can be used at the same time, for example one port for the control system and the other port to record the data.

KCS-API and KCS-Process

For a fast and easy integration of Kündig measuring devices into Windows based control systems, we now offer a KCS-API (Application Programming Interface) in the widely used programming language C. The KCS-API is delivered as a DLL (Dynamic Link Library) and a KCS Process (Windows application) that acts as a driver.

■ Technical specifications FE-8

Electrical interface values Powerbox

Power supply	110 - 240 VAC, 50/60 Hz
Power consumption	max. 25 VA

Electrical interface values display unit

Power supply	12 / 24 VDC, +/- 15%
Power consumption	max. 10 VA

Ambient temperatures

Powerbox	max. 50 °C
Measuring bar	max. 70 °C
Display unit	max. 60 °C
Transport and storage	-40 °C bis 70 °C

Measurement

Measurement principle	Edge detection by infrared sensors
Measuring interval	100 ms
Accuracy	Range < 2000mm: +/- 1mm Range > 2000mm: +/- 0.75 ‰ of Range

■ Calculation of amortization

Material output _____ kg/h	X	Operation time _____ h/day	X	Operation time _____ days/year	X	Material price _____ €/kg	=	Material throughput _____ €/year	
					Material throughput _____ €/year	X	Optimization _____ %/100	=	Material savings _____ €/year
					Investment _____ €	:	Material savings _____ €/year	=	Amortization time _____ years

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	
Processed materials:	_____		
IBC:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Gusseted films:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Die:	<input type="checkbox"/> Fixed	<input type="checkbox"/> Reversing	<input type="checkbox"/> Rotating
Haul-off:	<input type="checkbox"/> Fixed	<input type="checkbox"/> Reversing	<input type="checkbox"/> Rotating
Width of roll at haul-off:	_____ mm		
Rotation time:	Min. _____ min	Max. _____ min	
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:	_____		

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Product overview

K-300 Rotomat KT

Online thickness gauge with rotating scanner

KNC-400 Rotomat KT

Online thickness gauge for sticky
and sensitive films

KNC-600 Linear Scanner

Online thickness gauge for cast film

K-NDC Rotomat KT

Nuclear online thickness gauge
for barrier films

K-300 CF Gauge

Online thickness gauge
for quality supervision

S-50

Online thickness gauge
for quality supervision

S-100

Capacitive online thickness gauge
for barrier films

FE-8

Width measurement and control
for lines with or without IBC

FILMTEST

Offline measurement for quality control

PROFILSTAR.NET

Visualization for quality supervision and control

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