

FE-8

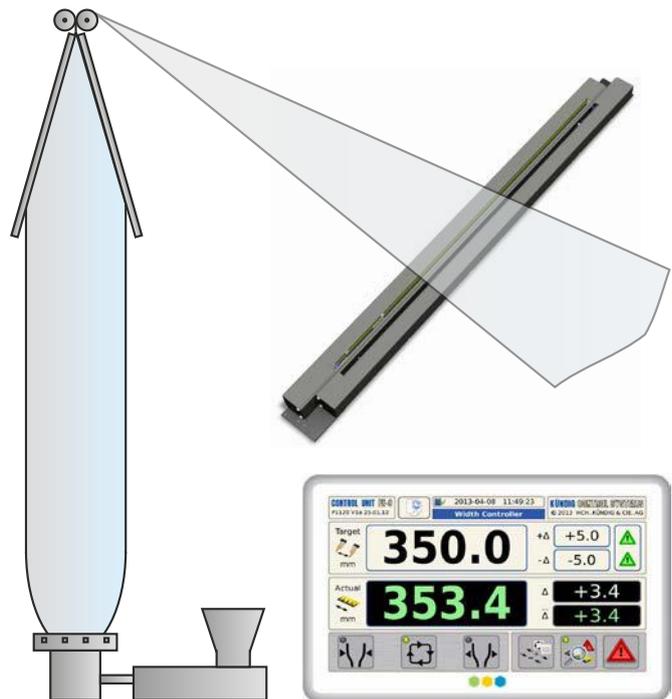
***Width
Gauge
and Width
Control***

■ 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.



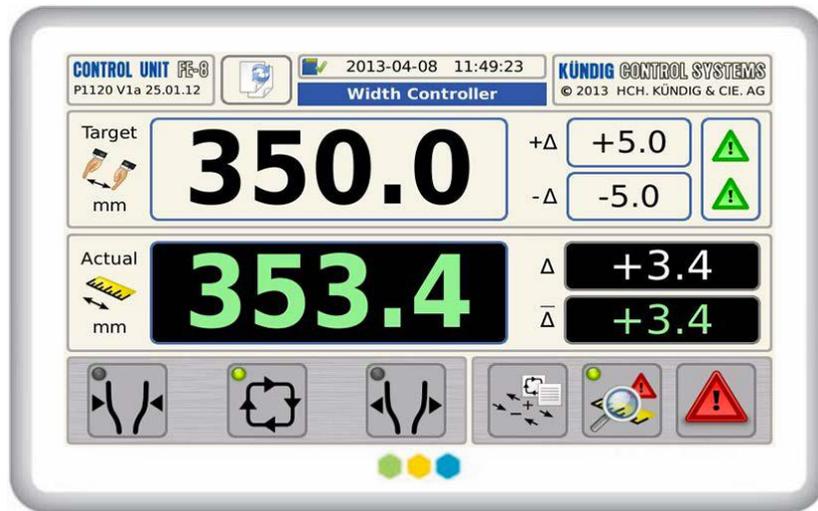
Two half bars of one size can cover up to 9 different layflat ranges.

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 |
| 3740 - 4340 | 1 | 550 - 3300 | 3740 |
| | 2 | 850 - 3600 | 4040 |
| | 3 | 1150 - 3900 | 4340 |

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.

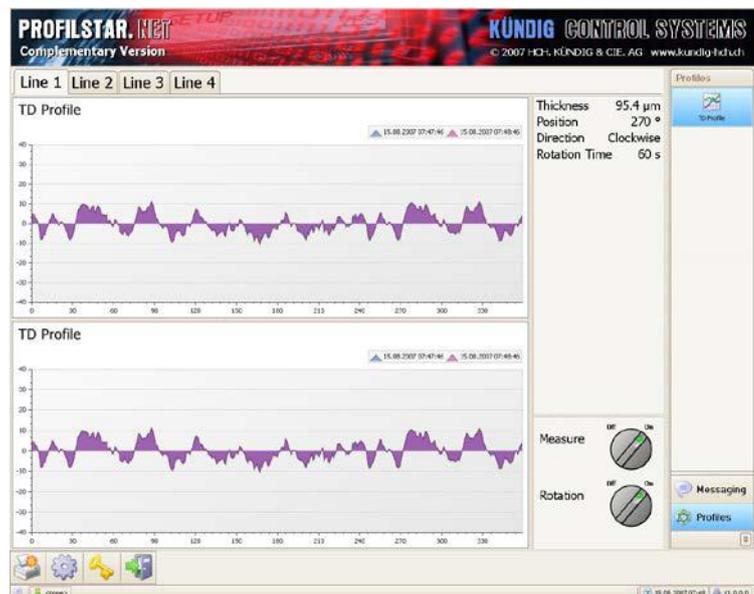
■ Connections and interfaces

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 | 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

$$\begin{array}{l}
 \boxed{\text{Material output}} \quad \text{kg/h} \quad \times \quad \boxed{\text{Operation time}} \quad \text{h/day} \quad \times \quad \boxed{\text{Operation time}} \quad \text{days/year} \quad \times \quad \boxed{\text{Material price}} \quad \text{€/kg} \quad = \quad \boxed{\text{Material throughput}} \quad \text{€/year} \\
 \\
 \boxed{\text{Material throughput}} \quad \text{€/year} \quad \times \quad \boxed{\text{Optimization}} \quad \text{\%/100} \quad = \quad \boxed{\text{Material savings}} \quad \text{€/year} \\
 \\
 \boxed{\text{Investment}} \quad \text{€} \quad : \quad \boxed{\text{Material savings}} \quad \text{€/year} \quad = \quad \boxed{\text{Amortization time}} \quad \text{years}
 \end{array}$$

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. _____ μ m Max. _____ μ m
Throughput: Min. _____ kg/h Max. _____ kg/h
Line speed: Min. _____ m/min Max. _____ m/min
- Extrusion: Monoextrusion Coextrusion __ Layers
 __ Components __ Components per layer
- Processed materials: _____
- IBC: Yes No
Gusseted films: Yes No
- Die: Fixed Reversing Rotating
Haul-off: Fixed Reversing 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: Thickness gauge Profile control system
 Width measurement Width control
 Meter weight control 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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