Digital Control System

ELGUIDER DRS 22

The new pivoting frame DR 227 was especially designed for guiding small webs. Thanks to its very compact construction and its imaginary pivot point within the infeed plane it can easily be integrated into existing machine systems. Its primary use is therefore in the label, packaging and hygiene industry.

Sensor
The position of the web edge is detected by a compact, opto-electronic edge sensor immediately behind the exit roller. As an alternative for films, an ultra-sonic sensor will detect even very clear webs reliably.

Controller
The digital controller is integrated into the pivoting frame. Adjusting the control parameters and thus optimizing the control loop is no problem thanks to the user-friendly control panel.

Networking
The standardized CAN-bus guarantees reliable and rapid data transfer and allows for an easy integration into any machine and control system with reduced wiring.

Interface
The system not only has the advantages of centralized operation of the controllers. It can also be connected without any problem to SPS controls and to various Bus-systems via a parallel interface (digital inputs and outputs).

Operation
Big emphasis was placed on the ergonomics of the control panel. The pictorial representation of the web, the application-oriented set-up of the function groups as well as the diaphragm keypad with readily understood symbols and LED displays make sure that the system is easy to handle.
Function
When guided by a pivoting frame, the web changes direction a total of four times. As the web is moved both on the longitudinal and transverse axes when it is corrected, its elasticity potential can be utilized more fully than with a purely transverse offset. The imaginary pivot point is within the infeed plane, web correction is thus perfect. Premature creasing is avoided.

Application
Given its excellent utilization of web elasticity, the pivoting frame is ideal for webs that are liable to tear. It is moreover recommended for use in confined space conditions.

Design
Depending on the job, a pivoting frame system for tough webs is designed along the following basic rule: the infeed, transfer and delivery lengths should be identical and should be between 50% - 100% of the web width.

selection table

<table>
<thead>
<tr>
<th>LÜ</th>
<th>Transfer span</th>
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<tbody>
<tr>
<td>NB</td>
<td>Nominal width</td>
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Guiding geometry and lengthwise tension distribution

A-A Web tension distribution at the infeed
B-B Web tension distribution at the delivery end
K correction of the web path
α correction angle
σ₁ web basic tension
σ₂ tension distribution by pivoting movement
of roller frame
AB operational width
L₁ infeed length
L₂ transfer span
L₃ exit length

Technical data DRS 22

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tr>
<td>Guider accuracy</td>
<td>&lt; ± 0.1 mm (depending on material)</td>
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</table>
| Nominal traverse | L₁ 250 mm max. ± 12 mm
L₂ 300 mm max. ± 15 mm |
| Nominal positioning speed | L₁ 250 mm 1 - 50 mm/s adjustable
L₂ 300 mm 1 - 60 mm/s adjustable |
| Force | NB 200/250/300/350 mm max. 300 N |
| Roller face width NB | 200/250/300/350/400/450 mm |
| Transfer span L₁ | 250/300 mm |
| Roller diameter D | 60/80 mm |
| Ambient temperature | 10 to 50° C |
| Operational voltage | Nominal value 24 V DC
Nominal range 20 - 30 V DC
Nominal range with power supply 100 - 240 V, 50/60 Hz |
| Power consumption | max. 2.5 A DC |
| Protection class | IP 54 |
| Measuring range | infra-red sensor FR 45 ± 3 mm
ultra-sonic sensor FX 45 ± 3 mm
line sensor FE 50 ± 10 mm |

Subject to technical modifications without notice