

Overview Web Guiding Solutions

FMS Web Guiding Solutions Steering frames, actuators, steering rollers and customized solutions

- Proven basic portfolio**
 Wide range of web guiding systems, free combination of all FMS components
- Fast and cost-effective customized solutions**
 We offer quick realization of solutions in all areas according to your specific needs
- Simple commissioning at the customer's premises**
 Integrated web interface
- Highest control accuracy and speed**
 Stepper motors with backlash-free spindles



Actuators and accessories

FMS web guiding systems can be operated in all common control modes and are very easy to use. The powerful drives with stepper motors and backlash-free spindles guarantee high control accuracy with fast response times and a long service life.

FMS-webMASTER - Steering frames

BKS015 - Compact, for small web widths
 BKS030 - For medium web widths

FMS-webDIRECTOR - Steering rollers for long free-spans



BKS041 - For 90 degree wrapping of the web
 BKS042 - For S-wrapping the web

FMS-winderGLIDE - Actuators for unwinding and rewinding stations




BKS.D.3 - For small thrust
 BKS.D.4 - For medium thrust
 BKS.D.7 - For high thrust



Functional description

All components of the control loop are already included in the web guiding system. The basic edge and line control functions are ensured by the type and number of material sensors selected. The wide range of options and accessories also offers you many possibilities to customize the system to your specific needs and requirements. From the mounting options to the external web guiding controller with Ethernet interface, all configuration options are open to you.

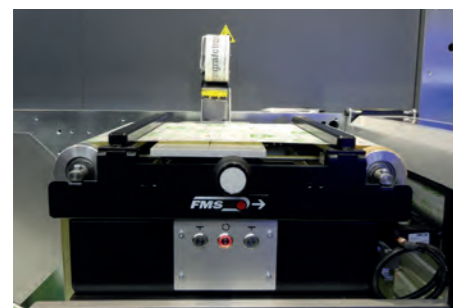
FMS-webMASTER Steering frames	BKS015	BKS030	CUSTOM LINE
			
Web			
Minimum roller length in mm (in.)	100 (4)	600 (23.6)	●
Maximum roller length in mm (in.)	350 (13.7)	1800 (70)	●
Roller diameter in mm (in.)	50, 75 (2, 3)	100, 150 (4, 6)	●
Max. speed in m/Min. (ft/Min.)	400 (1'300)	600 (2'000)	●
Maximum web tension in N (lbf)	250 (56)	750 (170)	●
Drive			
Motor	Stepper motor	Stepper motor	
Spindle	Backlash-free	Backlash-free recirculating ball screw	
Max. adjustment speed mm/s (in./s)	18 (0.7)	35 (1.4)	
Max. web offset in mm (in.)	15 (0.6)	45 to 120 (1.7 to 4,7)	●
Material Sensors			
Ultrasonic sensors US01, US04	●	●	●
Optical sensors AZS01, AZS04	●	●	●
Line sensor DLS2		●	●
General technical data			
Power supply in VDC	24 (18 to 36)	24 (18 to 36)	
Protection rating	IP30	IP30	●
Temperature range in °C (F)	0 to 50 (32 to 122)	0 to 50 (32 to 120)	
Web guiding controller			
Integrated controller	● BKS015	● BKS309	
External controller	● BKS309	● BKS309	

	Roller material and surface finish
D	D - Aluminum machined
E	E - Aluminum blank anodized
K	K - Aluminum, cork coated
A	A - Special materials, coatings, finishes

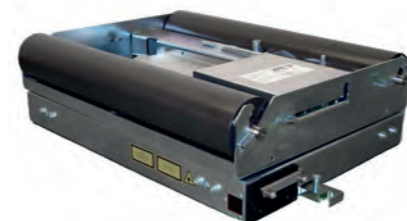
FMS-winderGLIDE Actuators	BKS.D.3	BKS.D.4	BKS.D.7	CUSTOM LINE
				
Drive				
Maximum thrust in N (lbf)	650 (66)	1250 (127)	4000 (405)	
Adjustment speed in mm/s (in./s)	25 (1)	25 (1)	36 (1.4)	
Stroke in mm (in.)	125, 200, 300 (5, 7.9, 11.8)	125, 200, 300 (5, 7.9, 11.8)	200, 300 (7.9, 11.8)	
Motor	Stepper motor	Stepper motor	BLDC-Motor	
Spindle	Backlash-free recirculating ball screw	Backlash-free recirculating ball screw	Backlash-free recirculating ball screw	
Material sensors				
Ultrasonic sensors US01, US04	●	●	●	●
Optical sensors AZS01, AZS04	●	●	●	●
Line sensor DLS2	●	●	●	●
General technical data				
Power supply in VDC	24 (18 to 36) via controller	24 (18 to 36) via controller	24 (18 to 36)	
Protection rating	IP42	IP42	IP42	●
Temperature range in °C (F)	-10 to 50 (14 to 122)	-10 to 50 (14 to 122)	-10 to 50 (14 to 122)	
Positioning accuracy in mm (in.)	± 0.1 (± 0.004)	± 0.1 (± 0.004)	± 0.1 (± 0.004)	
Web Guiding Controllers				
External web guiding controllers	● BKS309	● BKS309	● BKS309.DC	●

FMS-webDIRECTOR Steering rollers	BKS041	BKS042	CUSTOM LINE
			
Web			
Minimum roller length in mm (in.)	600 (23.6)	600 (23.6)	●
Maximum roller length in mm (in.)	1600 (63)	1600 (63)	●
Roller diameter in mm (in.)	50, 75 (2, 3)	50, 75 (2, 3)	●
Max. speed in m/Min. (ft/Min.)	600 (2'000)	600 (2'000)	
Maximum web tension in N (lbf)	500 (50)	500 (50)	
Drive			
Motor	Stepper motor	Stepper motor	
Spindle	Backlash-free	Backlash-free	
Adjustment speed in mm/s (in./s)	25 (1)	25 (1)	
Max. web offset in mm (in.)	120 (4.7)	120 (4.7)	
Material sensors			
Ultrasonic sensors US01, US04	●	●	
Optical sensors AZS01, AZS04	●	●	
Line sensor DLS2			
Allgemeine technische Daten			
Power supply in VDC	24 (18 to 36)	24 (18 to 36)	
Protection rating	IP30	IP30	●
Temperature range in °C (F)	0 to 50 (21 to 122)	0 to 50 (21 to 122)	
Web Guiding Controllers			
External web guiding controllers	● BKS309	● BKS309	●

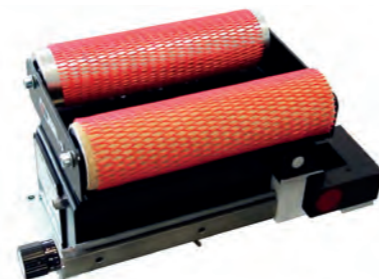
Web guiding : Examples for customized solutions



Fully equipped steering frame
 - Integrated web guiding controller
 - Splicing table with pneumatic clamps
 - Tape dispenser



Stainless steel steering frame
 - For food industry
 - Special abrasion resistant roller coating



Steering frame for bottling plant
 - Rated IP54
 - Exit roller with cork
 - Manual fine adjustment of the material sensor

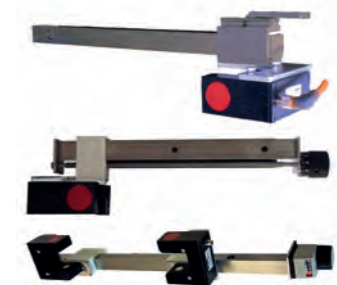
Web guiding : Accessories



Material sensors
 - Ultrasonic sensors
 - Optical sensors
 - Line sensors

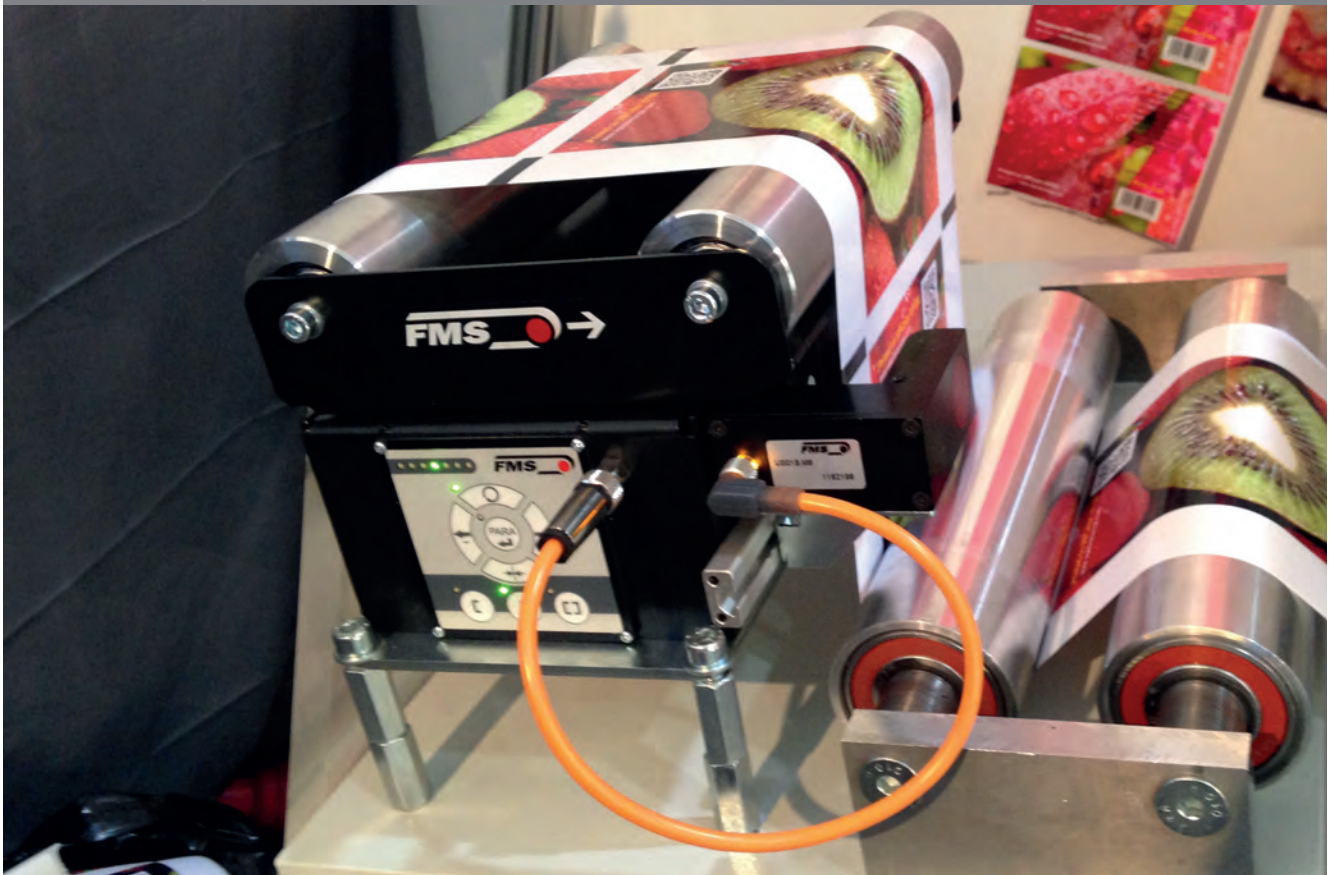


Splicing tables
 - Pneumatic clamps
 - With or w/o fine adjustment



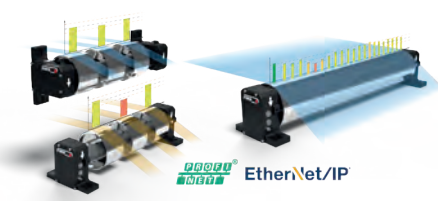


Manual material sensor fine adjustment
 - Simple correction of the web alignment
 - With or w/o index lines

BKS015-Series : Typical application



Tension monitoring products : Force sensors, measuring amplifier, segmented tension roller

Force sensors	Measuring amplifiers	FMS-segFORCE - segmented tension roller
	 <p>PROFI NETS</p> <p>EtherCAT</p> <p>EtherNet/IP</p>	 <p>EtherNet/IP</p>

About us

FMS Force Measuring Systems AG is the market leader in the field of web tension measurement, control and specialist for web guiding solutions. For the wire industry we are the only manufacturer offering a complete range of technologies for force measurement, data processing and radio transmission of signals. Our in house developed products are used in the manufacturing industry, converting, metals, paper, textiles, as well as in cable and wire rope production. Utilising the latest technology, high quality components and a firm understanding of customer applications, FMS supports customers worldwide in the effort to maximize the productivity of their machines. Since 1993, our highly qualified employees have been creating high-end solutions for machine builders and plant operators. As an owner-managed company, we pride ourselves on being personal and approachable with the ability to make decisive moves fast.

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