// Highest Precision for your Web Guiding.

BST eltromat
INTERNATIONAL

BST eltromat
INDIA

// EFFICIENT WEB GUIDING:
- RELIABLY HANDLED

Growing production speeds and increasing quality demands:
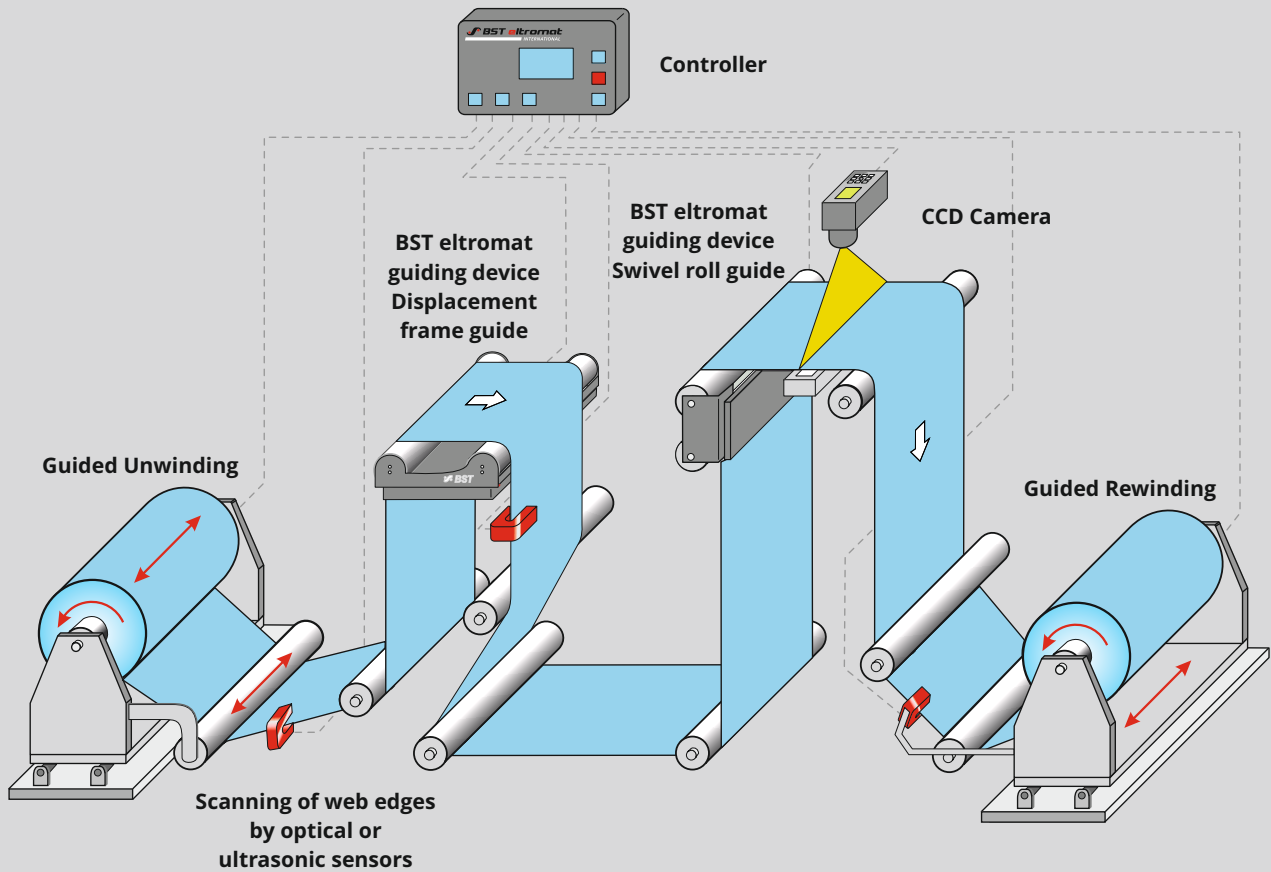Modern production machines for processing web-shaped materials
are e.g. used in the printing industry at speeds which were
exceptional only a few years ago. At the same time, providers
may only be successful in competition with reliably accurate results

The Challenge: It is very important to use the machine speeds to the full extent and to simultaneously ensure that everything runs smoothly and in a controlled manner, from unwinding the material, guiding it through the production process until rewinding it.

Continuous and accurate web guiding: BST eltromat systems control the web guiding in different production processes, e. g. in the paper, foil and rubber industry as well as in conveying and transport plants. When in use, the BST eltromat web guiding ensures that the processed material strictly remains in its intended position. BST eltromat web guiding systems can be used for a wide range of substances and effectively minimise spoilage and downtimes.

Web Guide Applications

Controller

BST eltromat
guiding device
Displacement
frame guide

BST eltromat
guiding device
Swivel roll guide

CCD Camera

Guided Unwinding

Guided Rewinding

Scanning of web edges
by optical or
ultrasonic sensors

Controller

Ultrasonic Sensor

Infrared Sensor

Actuator

Digital Sensor

Guiding Device

// ekr500 Supremus
All-in-One, Bluetooth & Industry 4.0 enabled Controller

// Introducing the latest development in the automatic web guide control system:

- Advanced new version of Graphical LCD
- High Current Actuator Motor Control upto 10 Amp
- Enabled with an industrial protocol like MODBUS TCP, using which any SCADA system can communicate, monitor and control ekr 500 Supremus
- Has Cloud Protocol Support to enable remote-access and over the air update
- Enabled Bluetooth support for users to control the web with Mobile App.
- Enabled with IIOT 4.0

Conceptualized, Programmed and Made in India
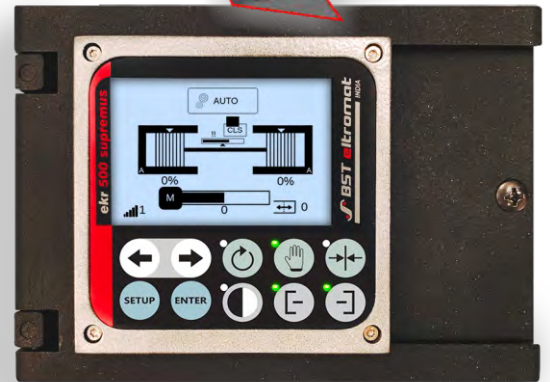
// Technical Specifications:

- Size in mm: 182 X 130 X 67 (W x H x L)
- Weight: 0.4 Kg
- Power Supply: 24 Vdc / 10A
- Cable length: 5 m std. (10 m optional)
- Operating conditions: Temp. 0° C to 50° C. / Max. Humidity 80%
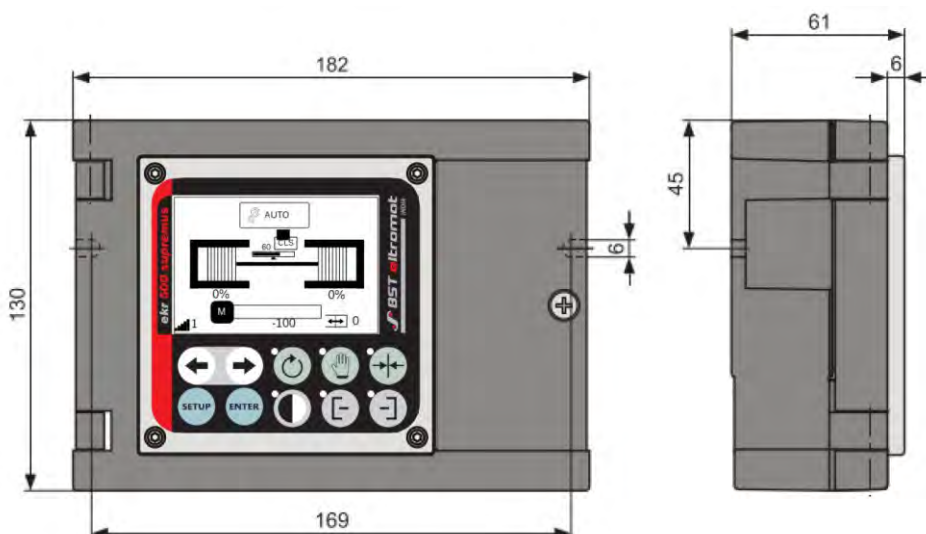
// ekr**500 Supremus**
Technology redefined

// Bluetooth enabled controller:

• It can be wirelessly operated with a mobile device using an app from the Google store. Particularly helpful when the controller is installed at hard to reach areas, e.g. Blown-Film lines.
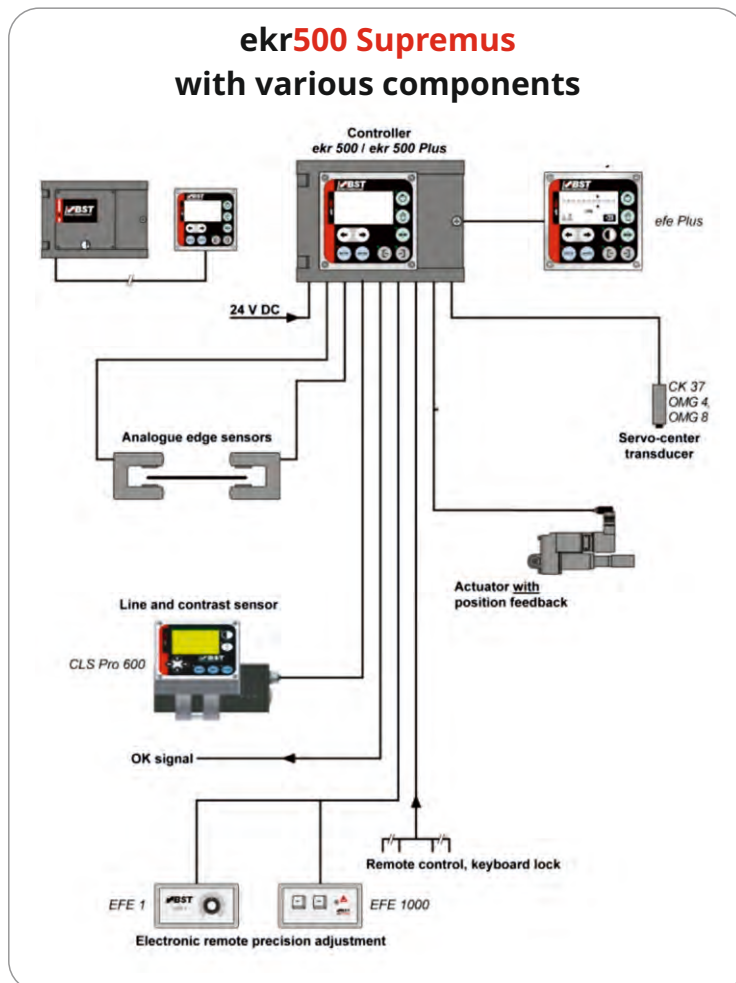
• It can be operated from a safe distance of 15-25 feets, improving the safety of the operator.

• All major functions of LCD keypad can be utilized on a mobile device via an app. The controller can be operated by a mobile device using bluetooth, even if the LCD keypad gets damaged.

• Firmware updates can also be done via Bluetooth (mobile device) using Wi-Fi.

// Industry 4.0 & IIOT to enhance web guiding applications:

• Serial communications protocols like Modbus TCP/RTU, easily help to connect the controller with the machine PLC. This enables monitoring and controlling of the system from a central location.

• Secure MQTT (Message Queuing Telemetry Transport) protocol enables the controller to be accessed remotely from any corner of the world which aids in service intervention like remote diagnosis, predictive maintenance of system, firmware update over the air and online monitoring.

ekr**500 Supremus**
with various components

Controller
ekr 500 / ekr 500 Plus

efe Plus

24 V DC

CK 37
OMG 4,
OMG 8

Servo-center transducer

Analogue edge sensors

Actuator with position feedback

Line and contrast sensor

CLS Pro 600

OK signal

Remote control, keyboard lock

EFE 1

EFE 1000

Electronic remote precision adjustment

// Your benefits at glance:

• Quick installation & commissioning (Plug & Play)

• Easy to replace

• Simple handling

• Remote control via digital inputs

• Color LCD with second keypad

• CAN technology to access Digital sensors

• Digital as well as analog sensor support

• Digital outputs

• Convenient connection to higher systems (PLC or PC) without gateways over Ethernet

• High current actuator support

• Different Feedback mechanism with over current protection of Motor Oscillation

• Over the air update & de-bugging

// CLS PRO 600
Perfect line and contrast guiding using CLS Pro 600

Do you need a sensor for dependable guiding of printed lines, print edges or web edges with maximum precision? Do you want ease of operation, clear feedback concerning the measuring status and reliable functioning even with critical materials including reflecting surfaces?

Then the **CLS Pro 600** digital sensor might be exactly what you are looking for!

With its high performance and user focussed functions, the **CLS Pro 600** gives outstanding quality for the benefit of your customers:

• With its high-resolution defection of lines, print edges or web edges using a color sensor
• Optimum lighting thanks to automatically controlled LEDs
• Outstanding dependability even at the highest web speeds
    • The high scan rate of 500 Hz allows precise guiding with high web speeds also with interrupted lines or contrasts
    • The high-resolution CCD-color line chip supports the precise guiding especially in combination with the high scanning rate
• Integrated clear color display
• Convenient selection of printed line, printed edge or web edge using a color display of contrast transfers
    • Laser projection to the center of the measuring range allows an easy alignment and adjustment of the camera
• Intuitive user guidance and convenient operation
    • Clearly arranged display
    • Easy setup (without text)
• Broad measuring range of 25 mm for precise web guiding results
• Precise shifting of the reference position for maximum accuracy
• Removable keyboard which can be installed at a central point of the machine
• Additional standardized output signal of 0 – 10 V in combination with a blocking signal
• USB interface for fast storage of parameters and jobs
• Robust design

// CLS PRO 600
## Perfect Technology

When developing CLS Pro 600 BST eltromat not only focused on technological features, but also had users' requirements in mind:

• On the color display, all messages and data are clearly shown and can be easily read at any time
• The menu interface is variable so that the user may individually define the most important functions which can be called up at the push of a button
• Graduated user access ensures the production and protects for unauthorized access to safety related parameter
• Intuitive user interface and clearly arranged menus CLS Pro 600 is very easy to operate
• The system is controlled using a commander installed on a guide ring for up to 180° rotation
• The commander may be removed and connected at a central point if needed, e.g. when the sensor is installed at a point of the machine which is hard to get to.
• An included mounting device allows the correct alignment of the sensor
• An optional variable mounting bracket can be used for a perfect fit into the machine
• By use of the USB user interface parameter and jobs can be transferred easily into other CLS Pro 600 sensors
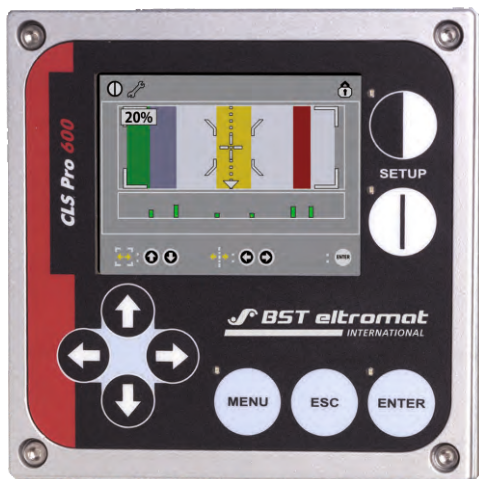
A color display of contrast transitions allows convenient selection of the desired printed line, print or web edge
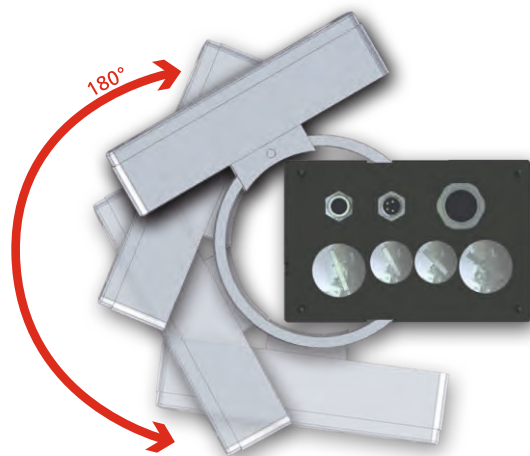
The CLS Pro 600 commander allows for 180° rotation on a guide ring.

// Ultrasonic Sensors: US 40/40 & US 200/40
Insensitive to dirt and material transparency changes

// Ultrasonic sensors (US): The scanning of the web edge is carried out contact-less by ultrasonic waves.

• Properties of BST eltromat ultrasonic sensors:
• Insensitive to dirt and changes in the transparency of the material
• No changes to the measured values through flutter of the web in the sensor scanning area
• Compensation for any interference which may be caused by external sound sources or other environmental influences

// Applications:
• The US 40/40 & US 2004/40 ultrasonic edge sensors are solely used in conjunction with BST controllers
• Especially for scanning the web edges of:
  • Materials with dust or fluff-like deposits
  • Films with a variable level of transparency
  • Light sensitive materials

// Functions:
• Both the sensors support two operating modes, Analog and Digital.
• The current web position in the sensor is output:
  • As 0-10V output signal when operated in analog mode
  • Supports BST CAN bus when operated in digital mode

Conceptualized, Programmed and Made in India

// Technical Specifications:

Particulars	Unit	US 40/40	US 200/40
Fork width	mm	40	
Measuring range	mm	12	
Supply voltage	V DC	12 – 30	
Ultrasonic frequency	kHz	40	200
Output signal (analog operating mode)	V	0 – 10	
Output signal (digital operating mode)	–	BST CAN Bus (compatible)	
Polarity reversal protection (supply)	–	Yes	
Operation display	–	5 LED represents surface covered	
Electrical Connection	–	M8 plug, 4-pin	
Ambient temp. during operation	°C	0 to +50	
Storage temperature	°C	-10 to +70	
Protection class	–	IP50	
Weight	gms.	< 250	

// Infrared Sensors: IR 2011
Ideal for transparent, opaque & thick materials, etc.


// Optical sensors (IR/RS):
Non-contact scanning of the web edge is carried out by light.

• Properties of BST eltromat IR sensors:
• Optical sensing light (insensitive to external light sources)
• No influence on the measurements by flutter of the web within the light path
• Optional connection for air sweep protects the lens against contamination from paper, dust or other contaminants (IR 2011)
• Large proportional scanning band permits web center-line guiding even for relatively large web width variations

// Applications:
• Transparent and non-transparent materials
• Thick materials
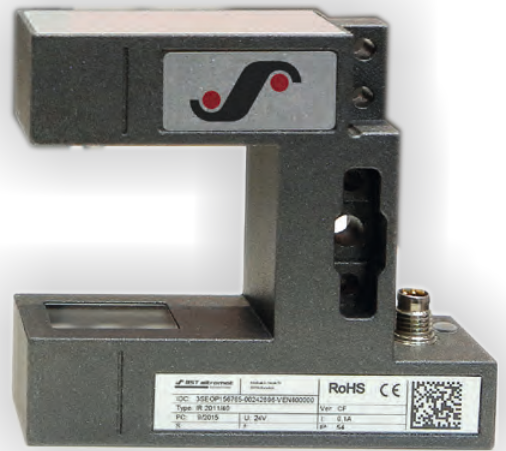
// Technical Specifications:

Particulars	Unit	IR 2011/40	IR 2011/70
Fork width	mm	40	70
Measuring range (Analog)	mm	16	16
Measuring range (Digital)	mm	24	20
Output signal (analog operating mode)	V	0 – 10	
Output signal (digital operating mode)	–	BST CAN Bus (compatible)	
Resolution	–	typical 0.05 mm	
Measuring Media	–	LED. Red	

// Electric Motor Driven Actuator:
High-performance position control for any application

// Motor-driven actuators:

Motor-driven actuating drives are used wherever a very fast response to web position changes is needed. The actuator can be connected directly to the controller. Ready-to-install designs mean quick, cost-effective assembly which is particularly beneficial for retrofitting existing systems.

// Features of BST eltromat's actuators:

• Wear-resistant DC motors
• Ball screw spindle drives for a long service life and minimum backlash
• Designed for curved and linear correcting movements
• Various combinations of actuation path, force and speed possible
• Available with or without position feedback (precise capturing of current actuating drive position) and electronic end position switch-off
• Maintenance-free

// Performance data:

BST eltromat actuators can be used in combination with our guiding devices for a variety of web guiding tasks. We offer electric drives with actuating forces of up to 5,000 N and strokes of up to 300 mm with or without position feedback. The actuating forces of our hydraulic power units reach up to 20,000N with various strokes.
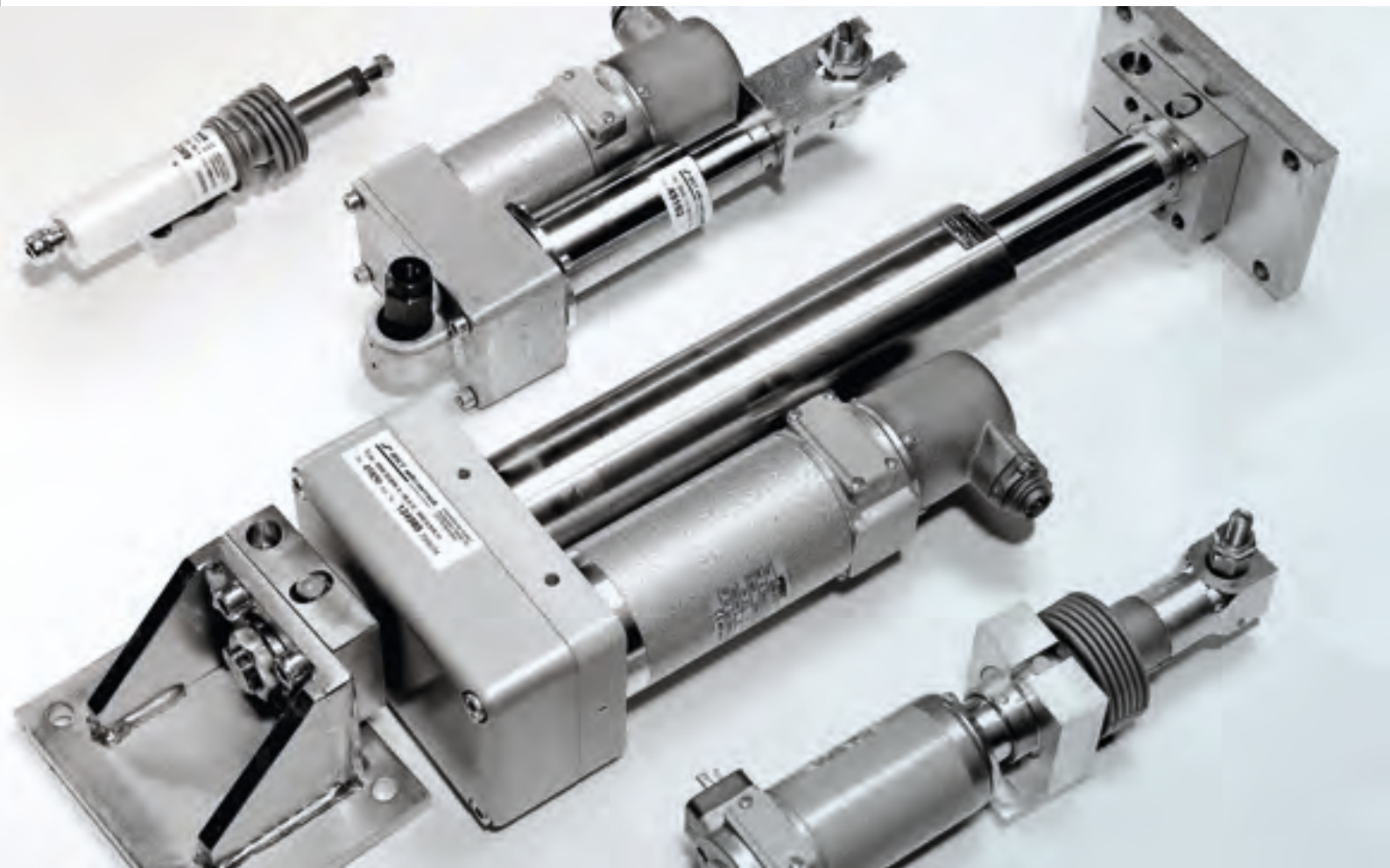
// Comparison of Actuators:

Actuators	Technical Data	Gear Ratio	Actuating Force	Actuating Speed	Stroke
EMS 10	EMS 10	-	420 N	20 mm/s	32/100 mm
EMS 16	EMS 16 / 200 / 4.2 / 16X5 / CX	4.2 : 1	840 N	10 mm/s	200 mm
	EMS 16 / 100 / 4.2 / 16X5 / CX	4.2 : 1	840 N	10 mm/s	100 mm
	EMS 16 / 50 / 4.2 / 16X5 / CX	4.2 : 1	840 N	10 mm/s	50 mm
	EMS 16 / 200 / 2.4 / 16X5 / CX	2.4 : 1	420 N	20 mm/s	200 mm
	EMS 16 / 100 / 2.4 / 16X5 / CX	2.4 : 1	420 N	20 mm/s	100 mm
	EMS 16 / 50 / 2.4 / 16X5 / CX	2.4 : 1	420 N	20 mm/s	50 mm
EMS 19	EMS 19 / 200 / 5 / 20-5 / C	5 : 1	1400 N	16 mm/s	195 mm
	EMS 19 / 100 / 5 / 20-5 / C	5 : 1	1400 N	16 mm/s	100 mm
	EMS 19 / 200 / 2.5 / 20-5 / C	2.5 : 1	740 N	30 mm/s	195 mm
	EMS 19 / 100 / 2.5 / 20-5 / C	2.5 : 1	740 N	30 mm/s	100 mm
EMS 20 / EMS 20B	EMS 20B	2.4 : 1	3000 N	30 mm/s	200 mm
	EMS 20B	2.4 : 1	3000 N	30 mm/s	100 mm
EMS 22B	EMS 22 / 200 / 5 / 20-5 / C	5 : 1	2000 N	10 mm/s	195 mm
	EMS 22 / 200 / 2.5 / 20-5 / C	2.5 : 1	1000 N	20 mm/s	195 mm
EMS 23B	EMS 23 / 195 / 14.5 / 25x5	14.5 : 1	5000 N	20 mm/s	195 mm
	EMS 23 / 295 / 14.5 / 25x5	14.5 : 1	5000 N	20 mm/s	295 mm

// Long-term success with great service

We have added new and innovative products into our portfolio. In doing this, we constantly remain focused on keeping you, our customer at the centre of everything we do. We are committed to offering you better solutions for your application.

Our team of specialist engineers shall provide you quick and prompt online-support in case of emergencies. No matter where in the world you use our technologies: We support you reliably with our comprehensive service.

For your benefit, we always adapt our systems exactly to the requirements of your production. Combine solutions from our various product areas:

• Web Guiding
• 100% Inspection
• Register Control
• Viscosity Control
• Web Video Inspection
• Color Measurement
• Surface Inspection
• Color Management
• Workflow
• Process Automation

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INDIA