

# HPC – HIGH PERFORMANCE COUNTING

## B10 Double Head Counting Machine



## Features

### The Machine

- Stationary Double Head Counting Machine for offline or inline use in a production line
- Plug & Play commissioning
- No external compressed air supply required (in case of non availability)
- No external components required
- Standard voltage supply Single-phase 230V-AC / 50-60Hz.

### The Advantages

- High efficiency - Increased productivity through simple operation
- High accuracy - 99%
- High flexibility - Range from 35 - 500 g/m<sup>2</sup>
- High durability - Solid, high quality construction
- High cost effectiveness - Low maintenance costs

### The Flexibility

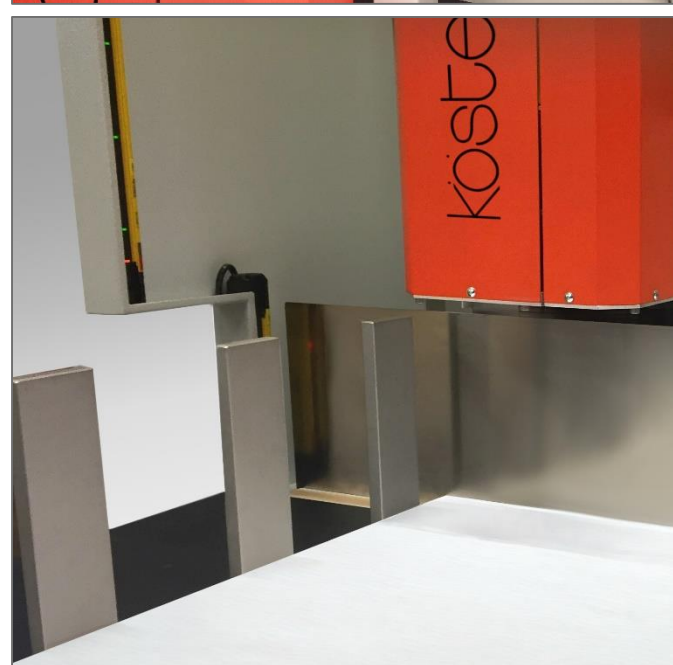
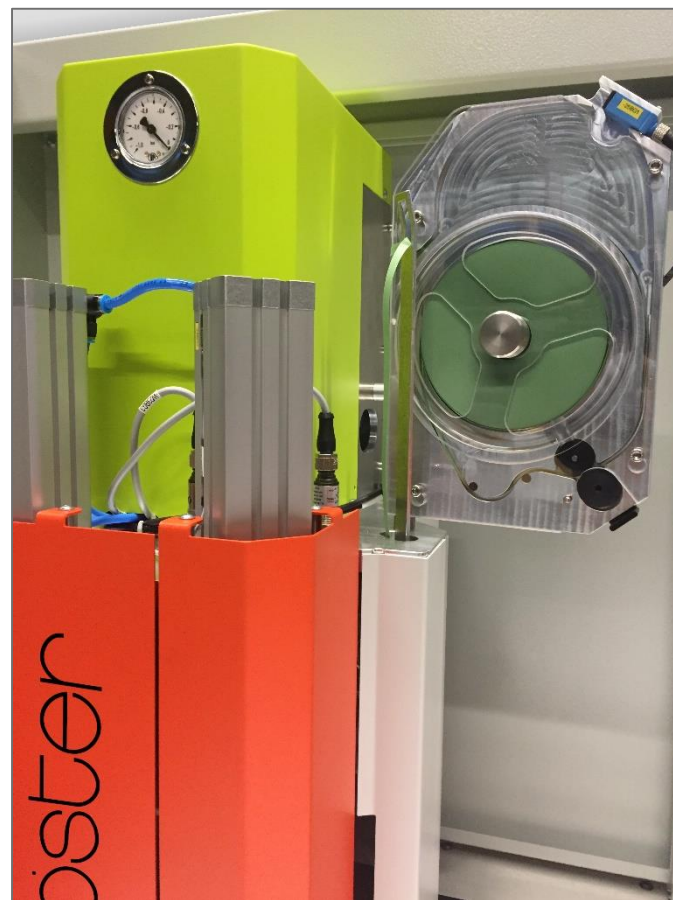
- All types of substrates used in the global security printing industry can be processed with the highest speed and accuracy.

### The Substrates

- Cotton based products
- Coated products
- Hybrid products
- Laminated products
- And much more

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## Features



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## Features

### The Formats

- Bundled or loose formats from 158 x 80 mm up to 1228 x 900 mm

### The Products

- Banknotes
- Postage stamps
- Tax stamps
- Passport covers
- ID document papers
- Visa stickers
- And many other delicate products

### The Operation

- Counting direction from top to bottom
- Best ergonomics for the operator
- Large working height adjustment range 820 – 955 mm
- Precise and fast product handling
- No adapters required
- Solid, automatically retractable backgauges
- User-friendly HMI interface with single-sided user interface
- Micro-perforated air flow table for easy reams sliding up to a weight of 50 kg
- Unique work safety concept

### The Precision

- Concentricity and axial runout of the counting disc <math><0.025\text{mm}</math>
  - Smooth running and safe counting signals at any speed
- State-of-the-art drives
  - Torque at any speed
  - Precise stopping

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## Features

### The Technology

- Disc technology and gentle disc design allows counting of critical zones such as:
  - Security thread
  - Applications
  - Codes
  - Intaglio printing
  - And much more

### The PLC Control

- High speed up to 300 sheets / second
- Accurate stopping on last count and exact batching

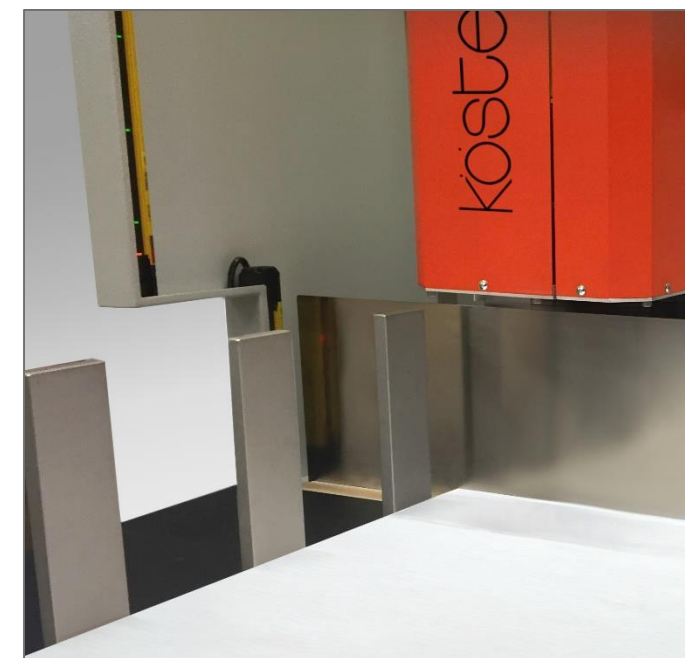
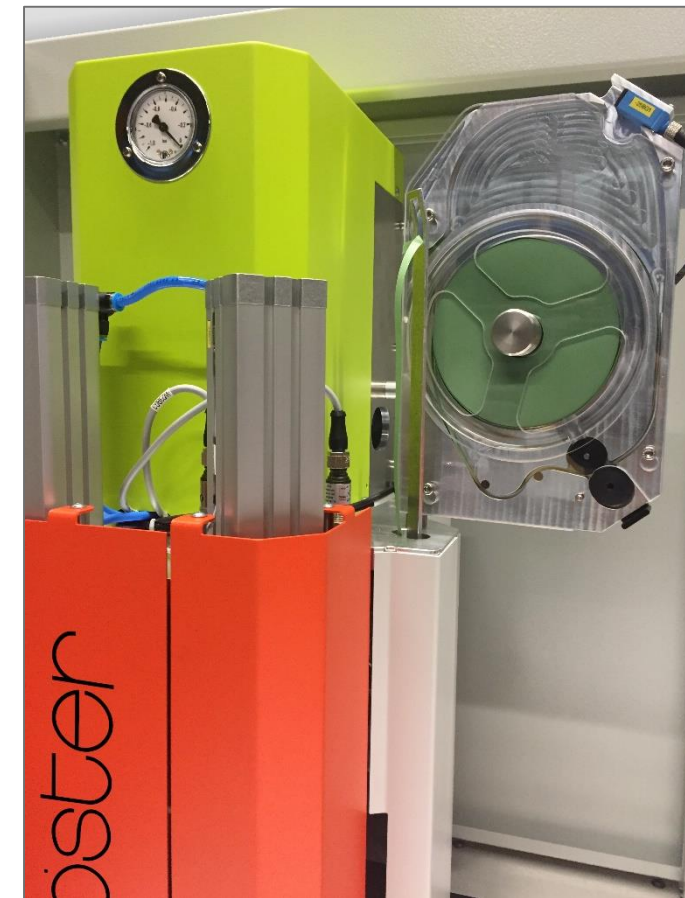
### The Machine Design

- All installed components are high-quality products from global manufacturers.
- The non-sophisticated machine design ensures easy maintenance and low maintenance costs as well as maximum machine availability.
- Machine's high performance and availability results from the robust and precise construction out of steel and aluminum.



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### The Uniqueness

- Standard counting speed already highest available in the market.
  - 2000 RPM / min. (6 segments discs = 12.000 sheets / min.).
  - Compatible with 3,4 and 6 segments discs.
- GSM range 35 g/m<sup>2</sup> - 500 g/m<sup>2</sup>.
  - 3, 4 and 6 segments discs available.
- Solid, automatically retractable backgauge along the entire length of the table.
  - Reams can be knocked forcefully for lengthwise alignment.
- Solid, automatically retractable lateral stop.
  - Reams can be knocked forcefully for crosswise alignment.
- Work safety secured by Safety Light Barriers.
  - All critical movements during operation are secured through safety light barriers.
  - User-friendly elimination of the risk of entrapment.
- State-of-the-art drives.
  - Speed independent torque availability.
  - No jamming of the disc at low revolutions during batching or counting.
  - Precise stopping.
  - No overcounting, eliminate the risk of overcounting when the pre-set value is acquired.
- Automatic recognition of the format length.
  - Automatic counting head adjustment to correct format size length.
  - No manual adjustment or setting of the format size is required.
- Both counting heads are equipped with C-discs as standard.
  - Counting heads can be operated simultaneously with C and S discs.
- Capsuled counting heads.
  - User-friendly reduction of noise pollution.
  - The press-plates are integrated into the counting heads shells.
- Fully integrated User Access Management
  - User access according to different user levels.
  - Logging of user actions for later control by the supervisor.
- Tab inserter compatible with all disc types.
  - Almost no speed reduction required.
  - The slim design of the tab inserters, unrivaled by the competition, enables counting of very small formats lengthwise from 186 mm with one tab inserter and 214 mm with two tab inserters.
- Unrivaled precision.
  - Mono block steel base to assure machine rigidity.
  - Concentricity and axial runout of the counting disc <0,025mm.
  - Approach Positioning of the counting heads <0,08mm.

### The Equipment

- **Security Counting:**  
Up to 4 results are compared with the pre-set value, if they do not match, the product is not automatically released and the machine is locked unless a supervisor confirms by entering a password the mismatch.
- **4 Positions Counting:**  
Counting at 4 different positions, corner or edge. The counting positions can be set individually in longitudinal direction for the 1<sup>st</sup> and 2<sup>nd</sup> count and stored in the program. The ream is counted at the 1<sup>st</sup> two positions, the operator turns the product on the machine table and the 2<sup>nd</sup> two positions are counted. The result of all 4 counting positions is displayed and compared with the pre-set value. In case of a mismatch, the product is not automatically released unless a supervisor confirms the result by entering a password.
- **Batching:**  
A pre-selected number of sheets can be easily batched to form a layer. The counting disc is used for separation to provide a gap for the operator to easily separate the layers.
- **Tab Inserting:**  
Optional tabbing of a preselected number of sheets. The special design of the tab inserter assures damage-free tabbing. Easy access tabbing stripe roll change including monitoring. Tabbing can be activated and deactivated for one or both counting heads. Tab inserters can be supplied as an option for one or both counting heads. The slim design of the tab inserters, unrivaled by the competition, enables counting of very small formats lengthwise from 186 mm with one tab inserter and 214 mm with two tab inserters.
- **Motorized Counting Heads Adjustment:**  
Both counting heads are motorized for longitudinal format length adjustment. The operator can set the correct longitudinal format size length of the product by direct input, calling up the stored programs from the receipt management or using the automatic format length recognition. If the machine is set to a fixed program by the supervisor, the settings for the production run are already retrieved from the receipt management and the operator cannot change the setting unless the change is confirmed by the supervisor by entering a password. The sensor controls integrated into the counting heads prevent damage to the product in any case of incorrect settings.

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## Features

### The Equipment

- **Counting Heads:**  
Depending on the product size, counting can be performed with one or two heads. The counting heads can be activated or deactivated independently of each other.
- **Firmware or Program Update:**  
Firmware or program version updates can easily be performed via USB memory stick.
- **Micro Perforated Airflow Table:**  
Almost no noise pollution.  
Almost no draught.  
Hard-anodized surface.  
Glare-free black or silver color.  
Maintenance free.  
If no external compressed air supply is available, supply by the optionally available air blower.

### The Options

- Warranty extension 24 months except wear parts.
- Tab inserter per head, one or two.
- Counting speed upgrade to 3000 RPM.
- Counting disks for processing non-specified GSM values are available on request.
- Casters
- Super-Glide Airflow Table
- Customised Table
- Special Voltage
- Printer Kit

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## Technical Specifications

Dimensions	L	W	H			
Overall (mm):	1680	1300	2124 -2263			
Table (mm):	1680	900				
Weight						
Machine weight (kg):	600 - 800					
Working Height						
Working height (mm):	820 - 955					
Supplies						
Electric:	Single-phase 230V-AC / 50-60Hz / max. back-up fuse 16A / full load current 11A					
Pneumatic:	No external compressed air supply required					
Format Sizes		H				
Min. layer height (mm):	1					
Max. layer height (mm):	200					
Corner Counting			One tab inserter		Two tab inserters	
	L	W	L	W	L	W
Min. format size (mm):	158	80	186	80	214	80
Max. format size (mm):	1202	900	1202	900	1202	900
Edge Counting			1 tab inserter		2 tab inserters	
	L	W	L	W	L	W
Min. format size (mm):	209	80	252	80	295	80
Max. format size (mm):	1228	900	1228	900	1228	900
Counting Technology						
Counting method:	Disc					
Counting direction:	Top to Bottom					

## Technical Specifications

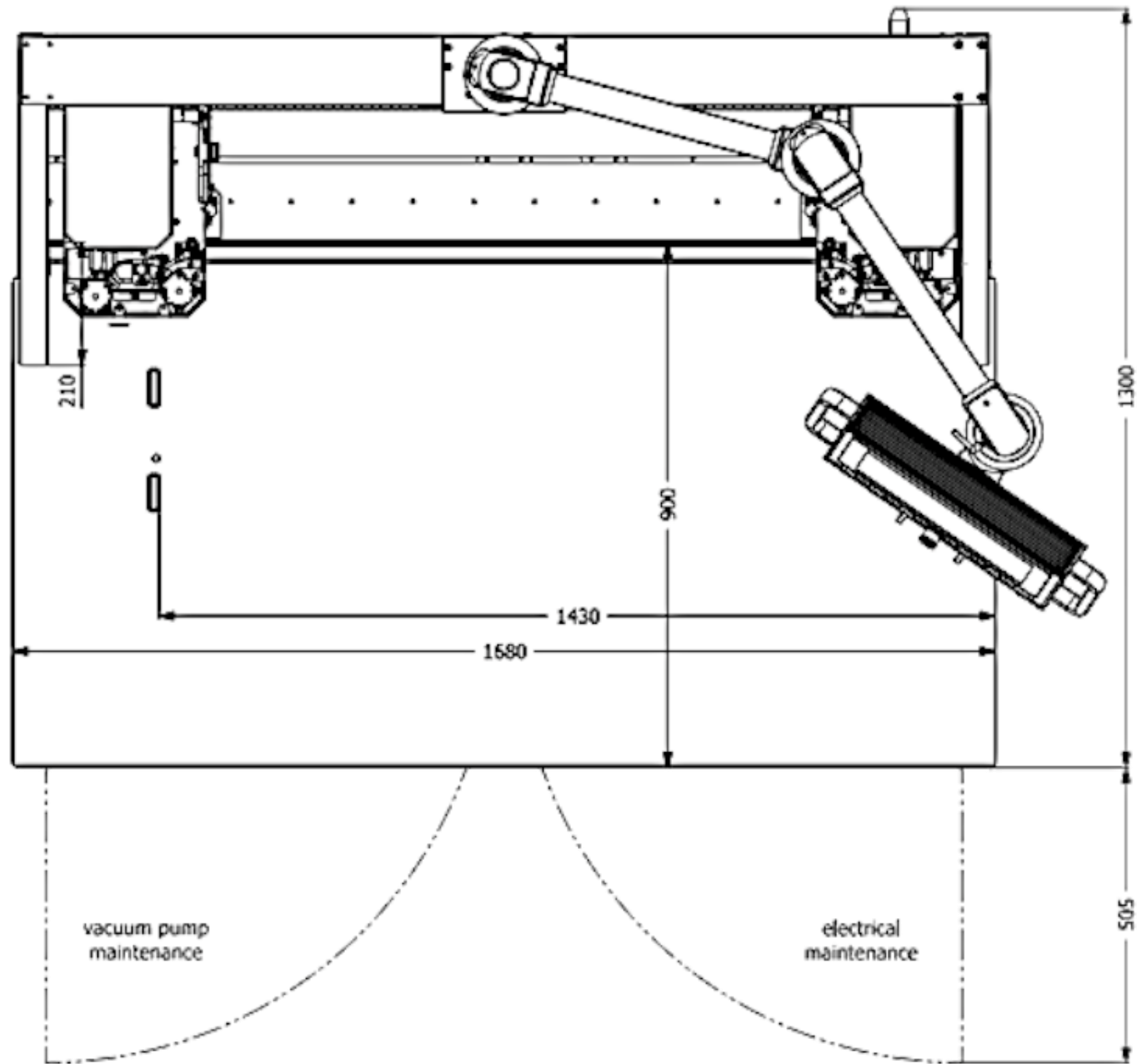
<b>Tab Inserter</b> <small>(optional)</small>						
Minimum sheets between inserting (pcs.):	1					
Possible configuration:	One per head, left head, right head or both heads.					
<b>Counting Discs</b>	Min.	Max.	Type	Position	Equipped	Tab Inserter
GSM (g/m <sup>2</sup> ):	40	200	S6	Edge	Default	Available
GSM (g/m <sup>2</sup> ):	70	270	S9	Edge	Optional	Available
GSM (g/m <sup>2</sup> ):	35	150	C2	Corner	Optional	Available
GSM (g/m <sup>2</sup> ):	50	200	C6	Corner	Optional	Available
GSM (g/m <sup>2</sup> ):	250	500	C4	Corner	Optional	Available
Counting discs to process higher GSM values available upon request. Depending on the stiffness and quality of the products, these values may deviate during processing.						
<b>Counting Speed</b>	RPM	Type	Segments	Sheets/Min.	Sheets/Sec.	
Rated RPM:	2.000	S6	4	12.000	200	
Rated RPM:	2.000	S9	4	8.000	133	
Rated RPM:	2.000	C2	6	12.000	200	
Rated RPM:	2.000	C6	6	8.000	133	
Rated RPM:	2.000	C4	3	6.000	100	
Depending on the stiffness and quality of the products, these values may deviate during processing.						
<b>Processable Substrates</b>						
Currency Industry:	Currency and documents paper, coated or uncoated, polymers, hybrids and much more.					
Consumer Industry:	Consumer paper, coated or uncoated, laminated, plastics, polymers and much more.					
<b>PLC Control</b>						
Brand:	B&R					
Touchscreen:	15,6" colored multilingual, main HMI with pictograms					
Interfaces:	FTP (Client / Server)/USB/MQTT (TCP / IP)/OPC UA/Profinet/Profibus/Ethernet-IP/ Device Net / CAN-Bus / CAN-Open / EtherCat / X2X Link Powerlink / Modbus TCP /					

## Technical Specifications

<b>Operating Noise</b>		
Max. dB(A) at 2000 RPM:	78	
<b>Environmental Conditions</b>	Min.	Max.
Recommended temperature range (+°C):	15	35
Recommended relative humidity range (%):	35	45
<b>Certification</b>		
CE Certificate:	Complies with all applicable European standards.	

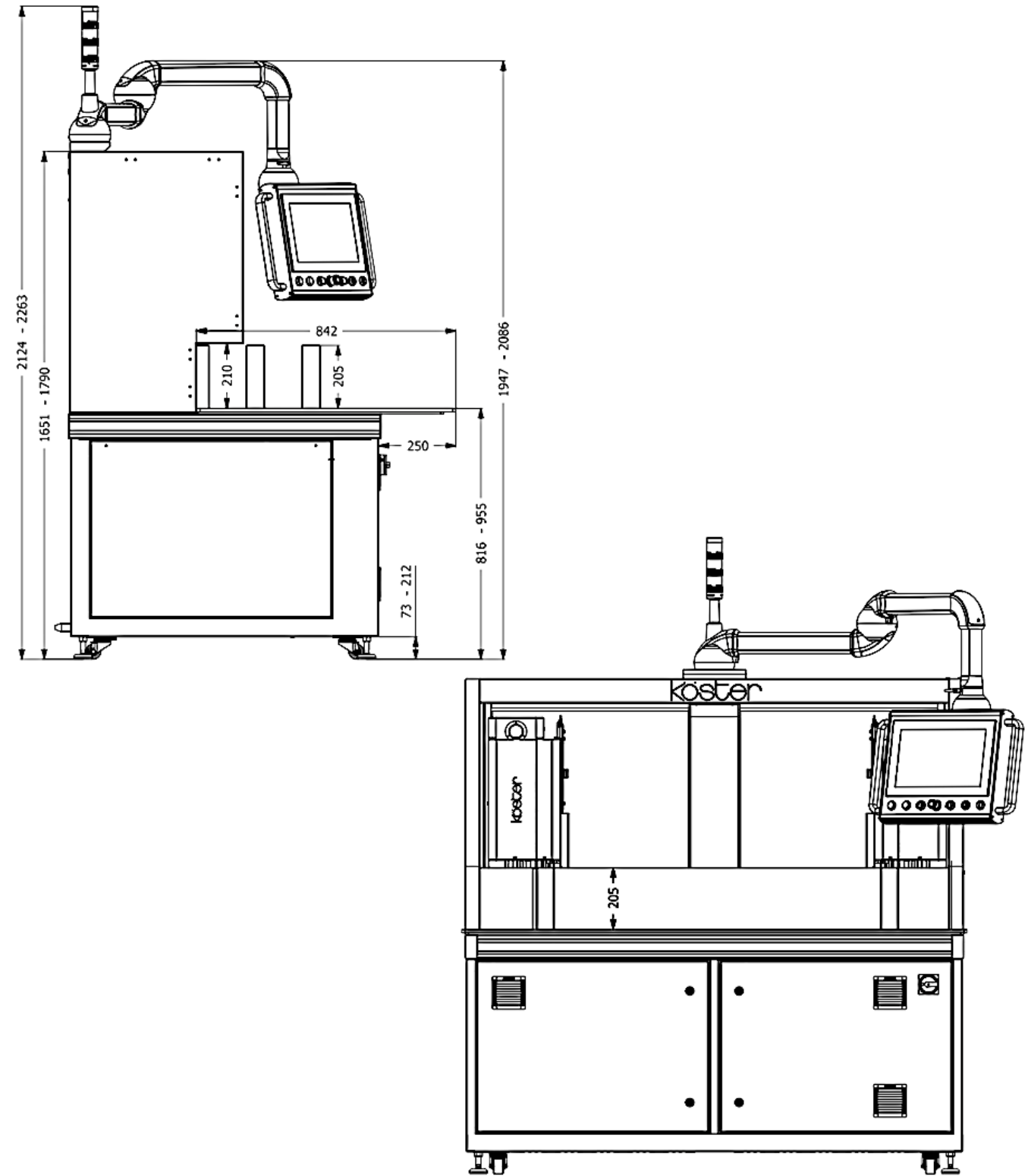
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## Machine Layout



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## Machine Layout



## Counting Discs – Since 1991



## HPC – HIGH PERFORMANCE COUNTING

### Basic Information

#### Counting Discs:

- The details of the GSM values are based on experience and tests. Depending on the product rigidity, these values may differ.
- Older produced counting discs for corner position are designated by 1xx,x for the diameter in "mm" and / or "V8 - V15" depending on the type.
- Newly produced counting discs for corner position are designated by "C1-Cx" depending on the type.
- Newly produced counting discs for edge position are designated by "S1-Sx" depending on the type.
- Warranty for the lifetime of the counting discs is not granted as the abrasive wear depends highly to the processed product.

#### Counting Machines:

- Maximum counting speed refers generally to the rated maximum rpm value and the machine design.
- It is not granted that maximum speed can be attended using all kind of substrates / materials.
- Warranty time 12 months upon issuing of the acceptance certificate.
- Warranty extension 24 months optionally available.
- Warranty coverage except wear parts.

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