

# W+D 628

High-performance direct mail  
envelope production system



**W+D**

# The high-performance direct mail envelope production system for quick and easy job changes

The new **W+D 628** is the envelope production system for all companies that want to meet the demands of the market and at the same time optimize their added value. The new **W+D 628** puts you in a position to produce high-quality envelopes in an uncomplicated and efficient manner, thus reducing both costs and your "time to mailbox."

In combination with the W+D 201 flexo printing machine, the **W+D 628** offers maximum flexibility, quick format changes and high-quality flexo printing quality.



W+D 628 C

## Why the W+D 628?

- / The W+D 628 RC and W+D 628 C are available for reel or blank converting.
- / The EasyCut® magnetic cylinder technology stands for consistently high product quality when processing rectangular blanks, eliminates die cutting as a separate work step and ensures high productivity during automatic inserting.
- / The EasyCut® magnetic cylinder technology ensures format changes and enables new formats, such as Envecard or shape-cut envelopes.
- / Pre-cut blanks can be processed as standard on the W+D 628 C and 628 BC.
- / Finishing options range from shaped windows to processing metallized paper for effects comparable with hot or cold foil applications to inline embossing on the paper web.
- / The machine is designed for processing papers up to 150 g/m<sup>2</sup>.
- / Minimal waste at machine stop ensures low production waste – a big advantage when processing digitally preprinted material with variable data.
- / Second window material patching station for large windows on the front and address windows on the back.
- / Speeds of up to 1,200 envelopes/minute (72,000 Env/h) as a roll version or 900 envelopes/minute (54,000 Env/h) when processing blanks in the specified format and grammage range ensure low unit costs.

# The W+D 628 is the ideal machine for medium to long production runs, both for offset or digital preprinted material from blank and for inline HD flexo printing from a roll

## Features

- / Up to 1,200 envelopes/minute (72,000 Env/h) for the W+D 628 RC/KC web and 900 envelopes/minute (54,000 Env/h) from blanks W+D 628 C and BC and KC models
- / Depending on the machine type, processing of all envelope styles (booklet, commercial-style and diamond-style)
- / For envelopes with single, multiple or special window formats
- / Both inner and optional outer side flap capability
- / EasyCut® magnetic cylinder technology as a standard component
- / Seal-flaps with dextrin, latex or hot-melt pressure-sensitive gumming possible
- / Optional embossing capability (steel/steel for embossing on the blank or steel/steel or photopolymer embossing on the web)

## Advantages

- / State of the art in terms of ease of use and maintenance
- / Individual servo drives enable quick format changes
- / Consistently high dimensional accuracy and folding quality of the envelopes ensure the highest product quality when inserting by machine
- / Push-to-Service button sends an e-mail with a diagnostic report to the W+D service when activated and, depending on the service level agreement, initiates help for quick service support
- / Optional W+D 914 PackAssist makes it easier to take up and box the envelopes, especially when processing smooth, coated or varnished material
- / Quick and easy adjustments of the onboard printing units (628 BC)
- / Sleeve technology and automatic pre-register capability of the print cylinders minimizes change over time,



W+D 628 BC now features new easy access HD 2/1 servo flexos with quick change plate cylinder sleeves



## The W+D 628 KC – Highest flexibility by producing printed envelopes both from blanks or from the roll

Widest choice for processing unprinted or pre-printed rolls or blanks even for medium and long runs. In both operating modes. The **W+D 628 KC** allows to apply up to two colors to the outside and one color to the inside of the envelope using inline flexo printing units. Alternatively on the web, the machine can also be equipped with a W+D 201 printing unit for 4/1 HD flexo multi-color printing.

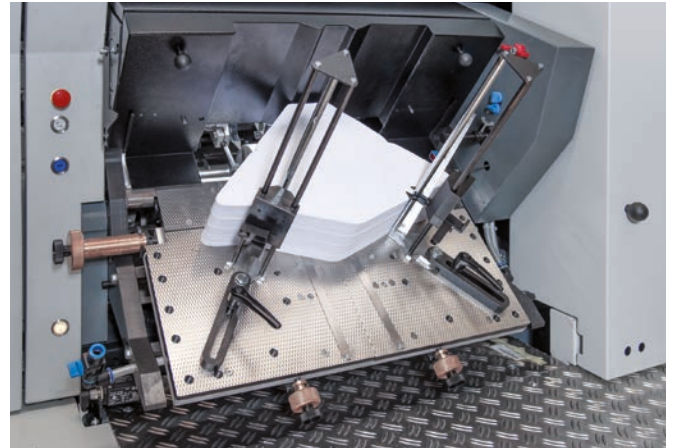


W+D 628 KC the most versatile envelope machine with inline printing units and production options from roll or sheet

The fast changeover between sheet and roll production enables a production mix between short and long runs. Customers who want to keep the entire workflow in-house benefit from the optional sheet-fed printing units or a separate W+D 201 CI or Stack HD inline flexo press. The W+D 201 flexo press is the ideal addition for direct mail applications.



User-friendly touch screens for easy control of all modules



Blank fed for W+D 628 C or BC

### Basic functions of the W+D 628 C

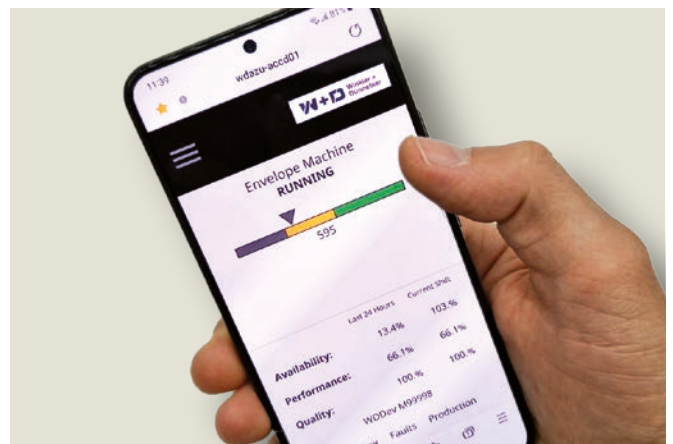
- / Blank infeed for rectangular and form cut blanks for booklet-, business- and diamond- style envelopes.
- / Window cutting and patching station
- / EasyCut®-magnetic cylinder technology for form and complete cut
- / Glue station for gluing the side flaps.
- / Movable alongside of the machine and swiveling multi-touch monitors for machine operation.
- / Temperature control of the drying station
- / Complete enclosure of the machine for personal and noise protection
- / Connection to W+D Expert Online as part of the warranty period
- / Accelerate system for cloud-based machine monitoring and data acquisition.

### Basic functions of the W+D 628 BC

- / Blank infeed for rectangular and form cut blanks for booklet-, business- and diamond- style envelopes)
- / 2 Flexo-blank-printing units for outside print
- / 1 Flexo blank printing unit for inside print
- / Window cutting and patching station.
- / EasyCut®-magnetic cylinder technology for form and complete cut
- / Glue station for gluing the side flaps.
- / Movable alongside of the machine and swiveling multi-touch monitors for machine operation.
- / Temperature control of the drying station
- / Complete enclosure of the machine for personal and noise protection
- / Connection to W+D Expert Online as part of the warranty period
- / Accelerate system for cloud-based machine monitoring and data acquisition



W+D Service Connect



The cloud based Accelerate system allows access to machine data from mobile devices.



Feed table in working position, Envelope converting from blanks

### Basic functions of the W+D 628 RC/KC

- / W+D 191 N: Auto Splicing unwind for paper rolls
- / Form cut station in the cutting tower
- / Blank infeed for rectangular and form cut blanks for booklet-, business- and diamond- style envelopes
- / 2 Flexo-blank-printing units for outside print
- / 1 Flexo blank printing unit for inside print
- / Window cutting and patching station.
- / W+D 190: auto splicing unwind for the window material
- / EasyCut®-magnetic cylinder technology for form and complete cut
- / Nozzle glue for gluing the side flaps.
- / Alongside of the machine movable and swiveling multi-touch monitors for machine operation
- / Temperature control of the drying station
- / Complete enclosure of the machine for personal and noise protection
- / Connection to W+D Expert Online as part of the warranty period
- / Accelerate system for cloud-based machine monitoring and data acquisition



Feed table in parking position. Envelope converting from web.

### Push-to-Service Button

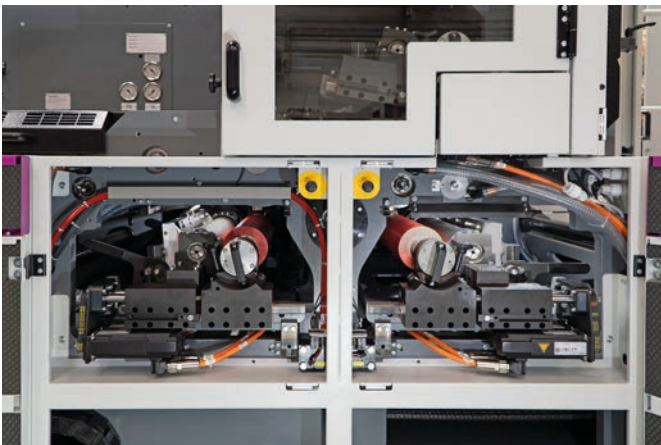
- / Pressing this button triggers a system diagnosis and copies all relevant data and messages into an e-mail. This is automatically sent to W+D First Level Support and contains the following information:
- / Machine number
- / Error message
- / Telephone number of the customer and a complete diagnostic.

### Help Wizard

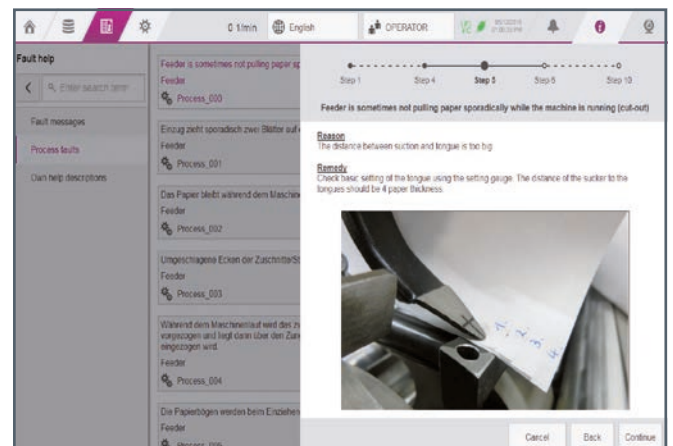
- / Detailed help menus for error diagnosis and description
- / Explanations include photo and video tutorials if applicable

### Tablet Connectivity

If a VPN connection is available, telephone calls and chats with W+D Service will be possible via tablet. Photos or videos can also be exchanged with W+D Service for possible troubleshooting and debugging

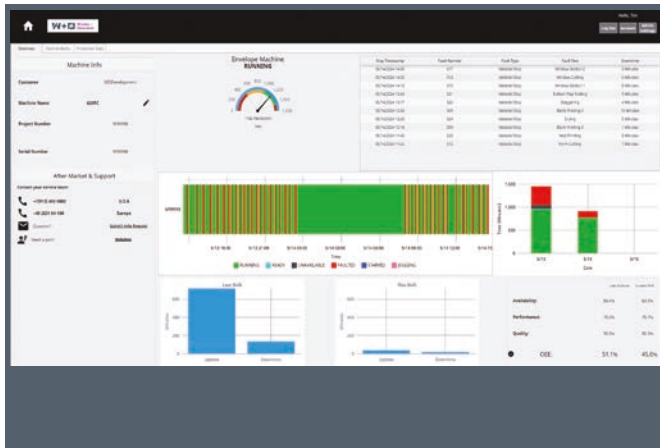


On-board HD flexo printing units



Help Wizard





Accelerate dashboard with shift performance, OEE, and run time diagram

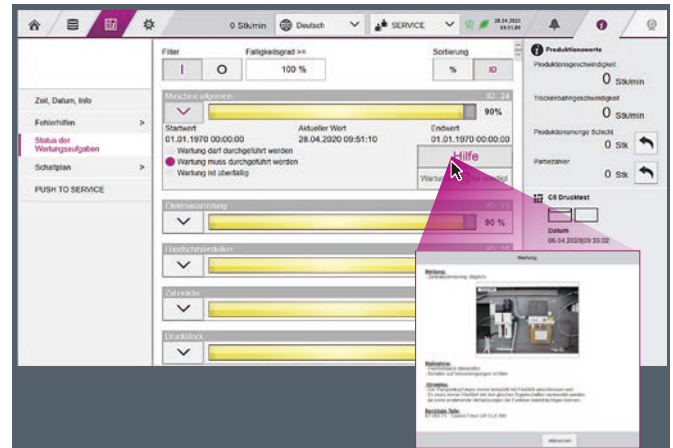
### Accelerate System

Enables monitoring of the machine status, machine parameters and reporting of production data.

The machine data can be viewed via PC, tablet or smartphone with an internet connection

The Accelerate system consists of:

- / Cloud Platform incl. Software und Configuration
- / Web-based user interface with an overview of all connected machines and their status
- / Dashboard for each machine with link to service manuals, production statistics with evaluation of the most common reasons for downtimes and production figures
- / Data can be downloaded as a csv file for further internal processing.
- / Control cabinet with the required hardware (PC's and IO modules)
- / The customer must provide an Ethernet connection to the Internet for this purpose.



Maintenance Manager

- / Free use of the system for the first year, thereafter monthly charges apply for continued use depending on the desired level of use. Details on request

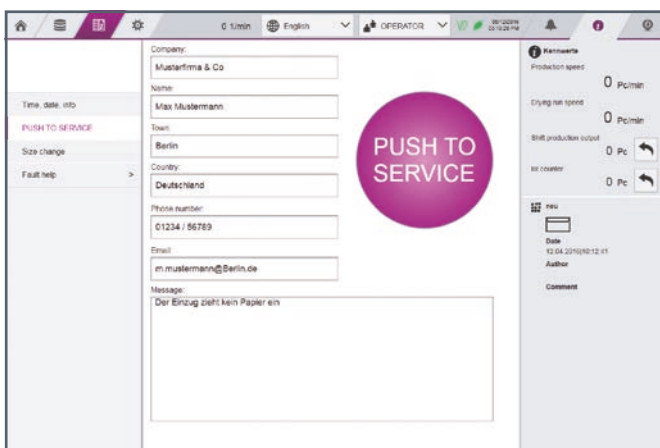
### Maintenance Manager.

With the W+D Maintenance Manager, you always have an overview of your upcoming maintenance work.

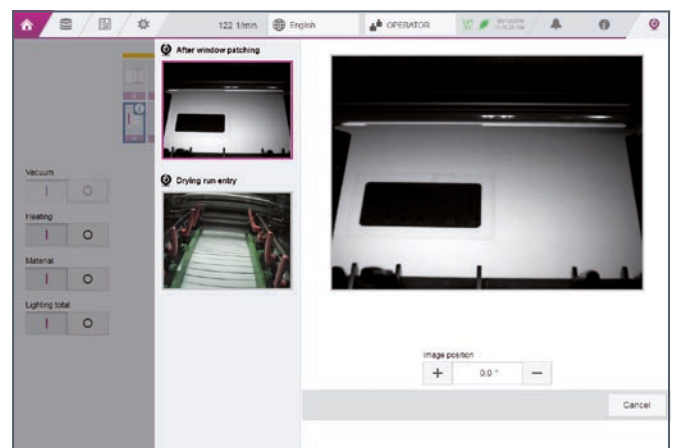
The Maintenance Manager increases your machine availability, reduces planning effort and ensures lower maintenance costs

### Optional Cameras

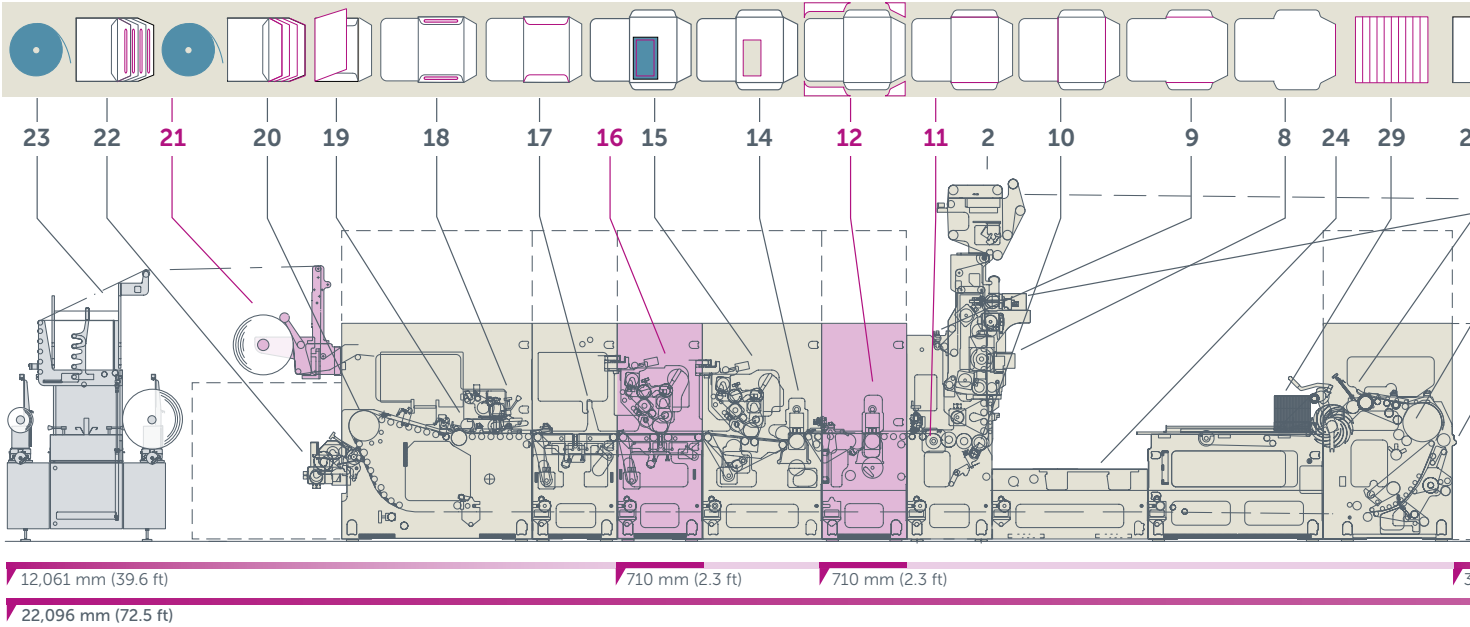
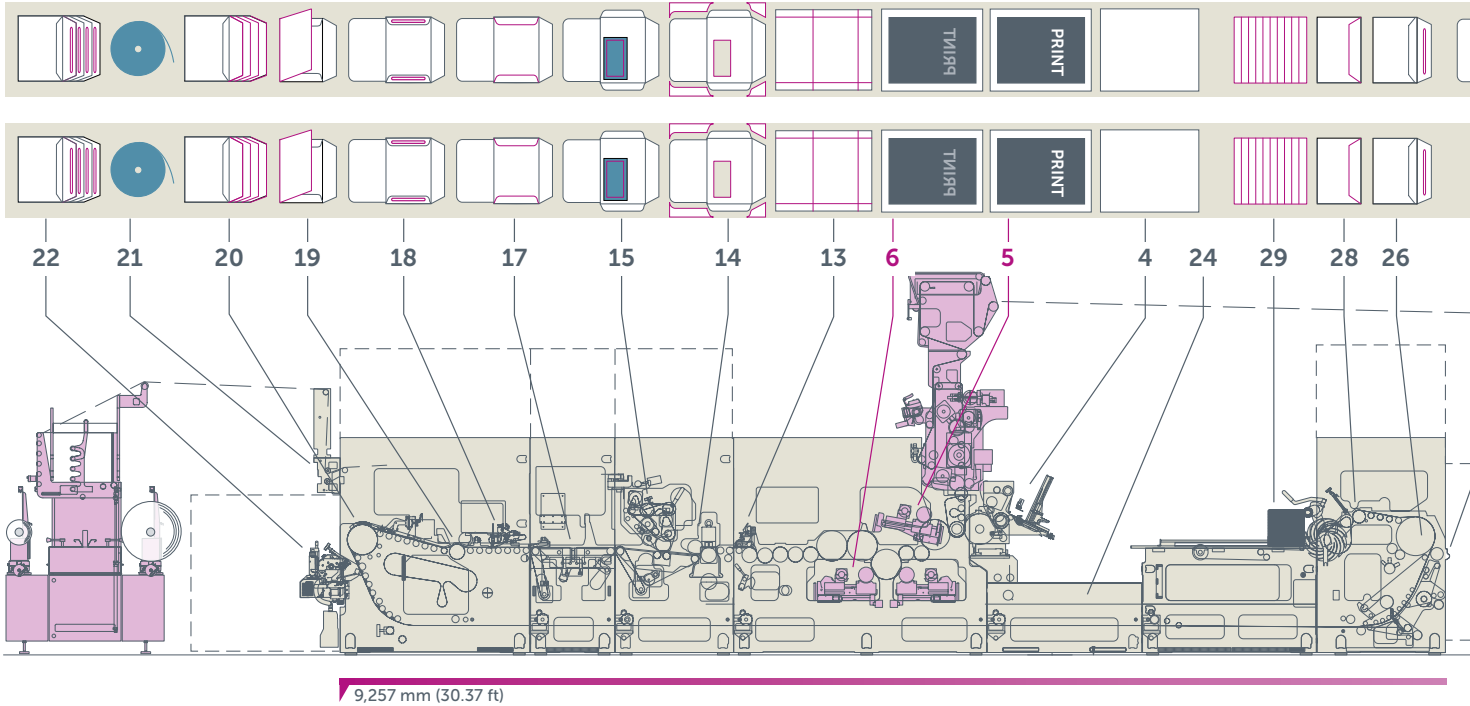
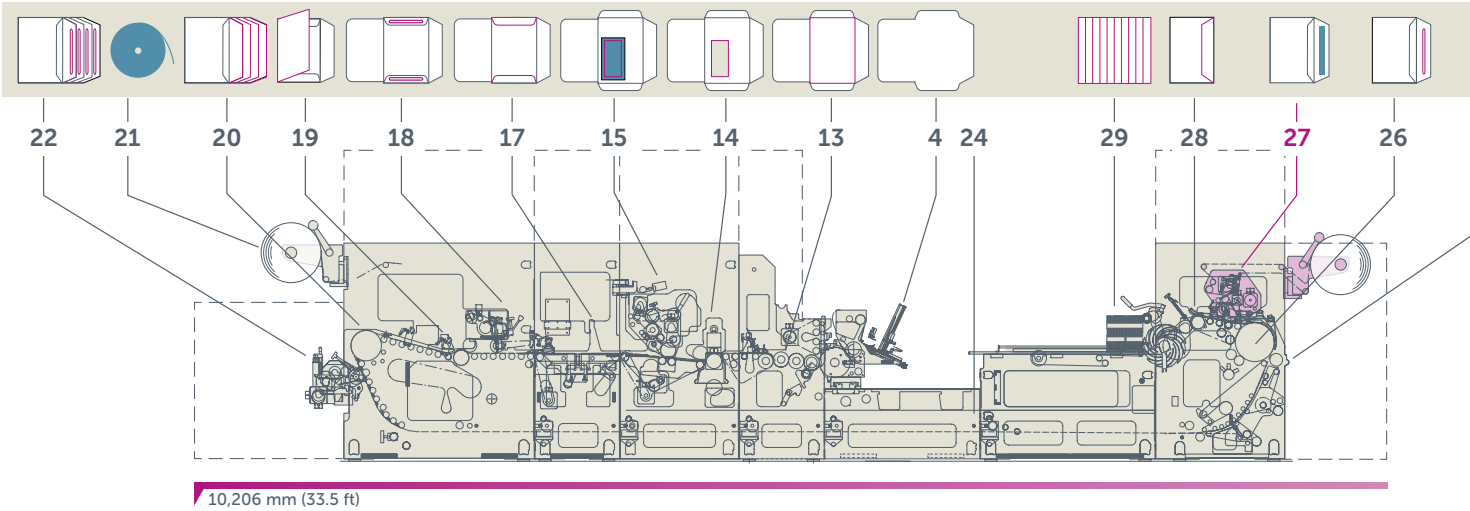
- / Cameras in the machine support quality control or process monitoring via HMI in real time
- / In areas of the product run with limited visibility (window station, dry web infeed), machine cameras ensure process monitoring via HMI.



Push-to-Service-Button



Machine cameras





## 628 C

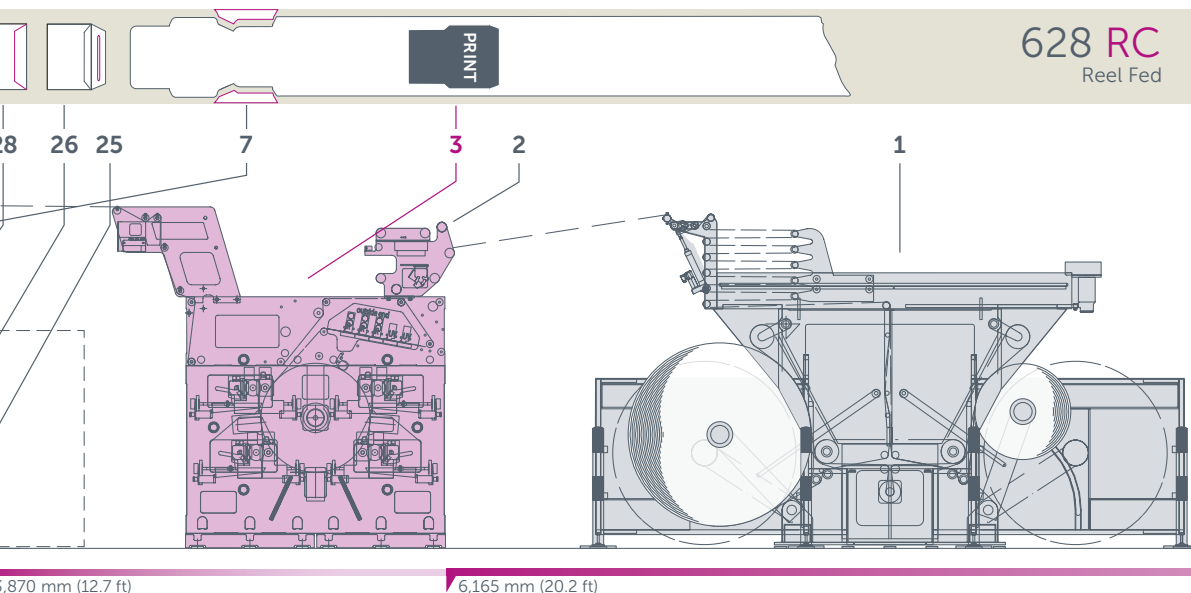
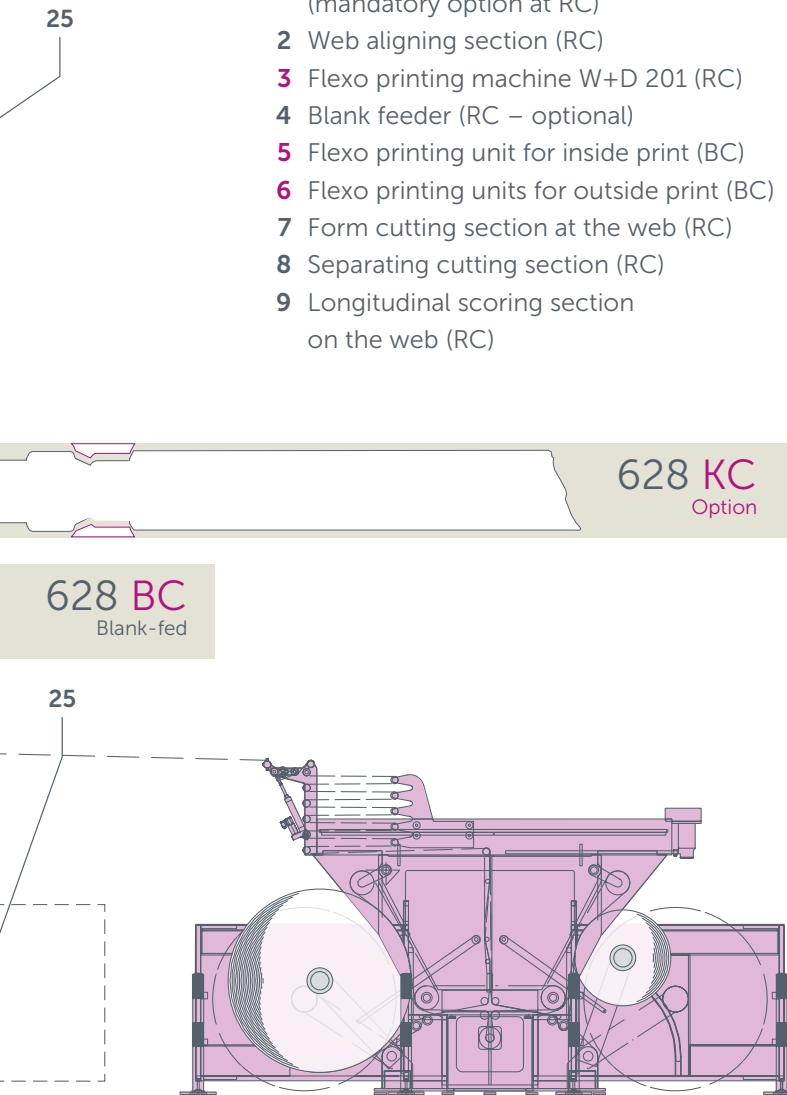
Blank-fed

### Machine layout

- 1 Reel splicer W+D 191  
(mandatory option at RC)
- 2 Web aligning section (RC)
- 3 Flexo printing machine W+D 201 (RC)
- 4 Blank feeder (RC – optional)
- 5 Flexo printing unit for inside print (BC)
- 6 Flexo printing units for outside print (BC)
- 7 Form cutting section at the web (RC)
- 8 Separating cutting section (RC)
- 9 Longitudinal scoring section  
on the web (RC)

- 10 Cross scoring section on the blank (RC)
- 11 Longitudinal scoring section on the blank  
(RC with blank feeder)
- 12 2nd form cutting section
- 13 Scoring section on the blank  
longitudinal/cross (C/BC)
- 14 Window cutting section
- 15 Window material patching station
- 16 2nd Window material patching station
- 17 Side flap folding section
- 18 Side flap gumming section  
Nozzle gumming: Basic (RC) – optional (C/BC)  
Cylinder gumming: Basic (C) – optional (RC)
- 19 Bottom flap folding section
- 20 Staggering section
- 21 Window material unwind  
Basic (C/BC) – optional (RC)
- 22 Seal flap gumming section
- 23 Window material reel splicer W+D 190  
mandatory option at RC or additional option  
at C/BC or together with 2nd window material  
patching section at C/BC or RC
- 24 Heated seal flap drying section
- 25 Product removal device
- 26 Aligner section
- 27 Hot-melt pressure-sensitive gumming section
- 28 Seal flap folding section
- 29 Delivery with counter

- optionale machine components
- mandatory option (RC)





Marked valve positions on the EasyCut® flex die allow quick and easy changeovers

#### Features for short change over times

- / Marked valve positions on the EasyCut® flex die
- / Toolless positioning of the window gummer by means of a PIN system.
- / Idle drive motor and automatic humidification of the seal-flap gummer reduces washing times when restarting after a machine stop.
- / Recipe storage for recurring jobs
- / Clear menu navigation
- / Changeover aids in the form of markings, scales, or integrated measuring aids
- / Automatic adjustment of the pull-out cylinder
- / Integrated control for side flap nozzle gluing and hot-melt pressure-sensitive gumming.
- / Flexo printing stations with sleeve technology (BC, KC)



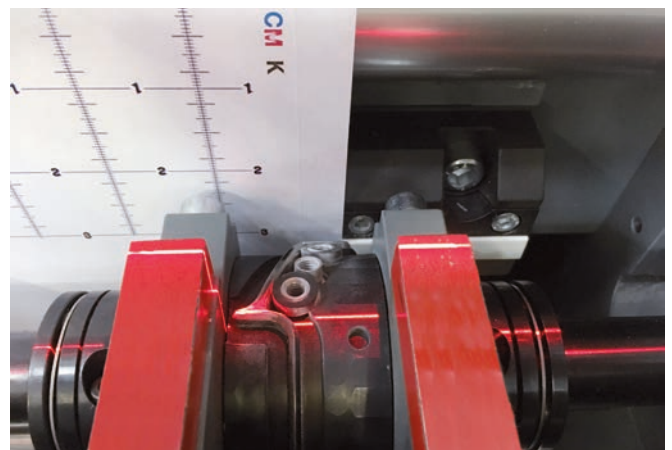
Toolless positioning of the window gummer by means of a PIN system

#### Features to minimize waste

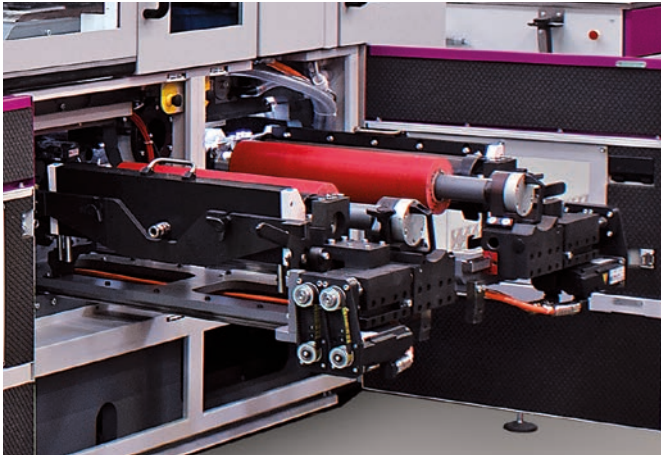
- / Laser-supported adjustment of the side cut knives in the cutting tower with integrated positioning from side cut to separating cut
- / Coordinated grippers and roller elements ensure marking and scratch-free processing of pre-printed or coated blanks or rolls.
- / At machine stop the good products are transported automatically from the drying section to the delivery table
- / Integrated stroboscope at the seal-flap station
- / Cameras to monitor the outside print  
(W+D 628 BC/KC)



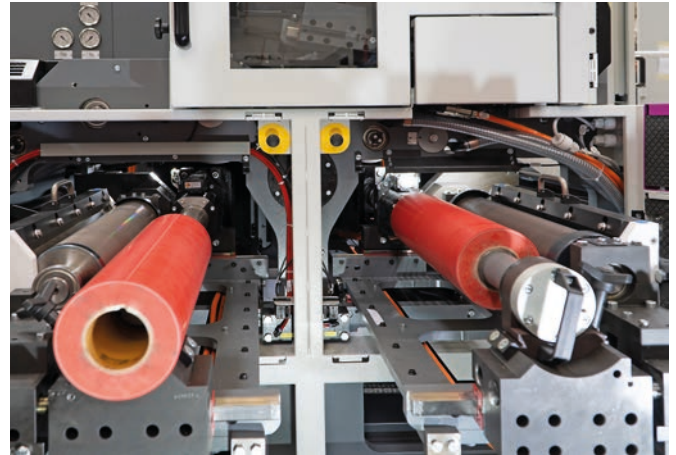
Seal-flap gumming section with glue humidification



Laser adjustment of side cut knives in the cutting tower



On-board HD flexo print units in service position



Print Cylinder Sleeves for quick and easy design change

### Flexo Blank Printing units (only 628 BC und 628 KC)

The new generation of blank printing units have been designed for ease of operation, high print quality, faster changeover times and greater flexibility. Envelope size and set-up values are made via an easy-to-understand menu by touch fields on screen or numerical input, in the same way as the printing units of the W+D 201 series.

The blank printing units are equipped with the same printing cylinder sleeve technology as the printing units of the W+D 410 or W+D 201 series. The central cylinder technology guarantees exact register accuracy. Register between colors is automatically preset to reduce start-up waste..

### Options

- / W+D 201: Flexo printing machine as CI or stack-type version for up to 5 colors
- / Optional blank fed for W+D 628 RC
- / W+D 190 or with 2nd window material patching section (WD 628 C resp. W+D 628 RC)
- / Hot-melt pressure-sensitive gumming section
- / Latex seal-flap gum
- / Additional cutting section for complete cut or window cut (W+D 628 RC)
- / Photopolymer or steel/steel embossing station on the web (W+D 628 RC) or steel/steel embossing station for blanks (W+D 628 C / W+D 628 RC)



Menu print setting with adjustments by numbers or clicks



W+D 201 CI Flexo print stand (optional)

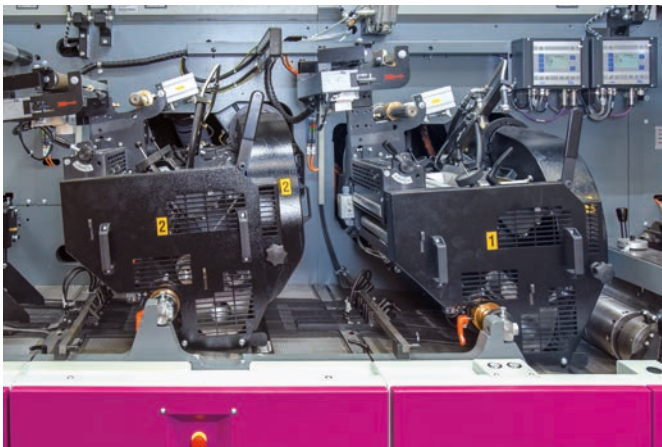




Sound-proof hoods with large windows to observe the production process

#### Further options

- / HD Servo Flexo Inside printing station with sleeve technology (W+D 628 BC, KC)
- / HD Servo Flexo outside printing station with Sleeve Technology (W+D 628 BC, KC)
- / 2. Window patching station
- / Integrated register control to convert pre-printed rolls (W+D 628 RC or W+D 628 KC) or preprinted window film
- / Tool set to produce envelopes with self-adhesive gumming and back folded bottom flap (latex gumming)
- / Folding tools for the production of envelopes with outer side flaps
- / Cameras in the machine for process monitoring



2nd window material patching section



W+D 914 PackAssist

#### End of Line Automation

- / W+D 914 Pack Assist

Semi-automatic packing device that makes it easier to pack envelopes made from coated or smooth paper. The envelopes must be manually separated on the delivery table and fed into the Pack Assist. At the touch of a button, envelopes are pressed, lifted from the table and rotated so that they can be boxed.

 (<https://www.youtube.com/watch?v=l2xFCfB9lnI>)

- / Fully automatic Packing System

Fully automatic packing machine for the automatic packing of envelopes at the delivery table. The automatic packer separates the envelopes from the stack, groups them and optionally inserts separating boards before the envelopes are pressed together in larger batches and transferred to the box. The box is then automatically sealed and placed on a conveyor belt.

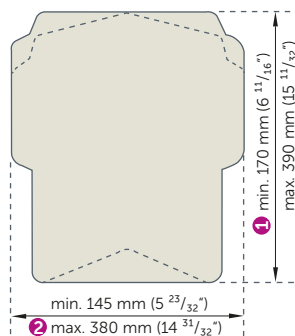
 <https://www.youtube.com/watch?v=thxEeZ-obkQ>



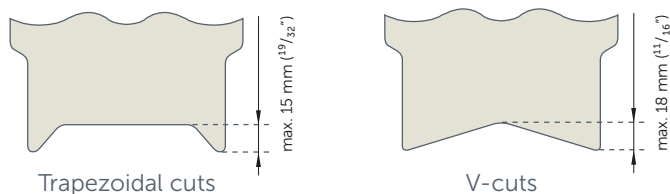
Fully automatic packing machine EnpacV

## Dimensions and formats

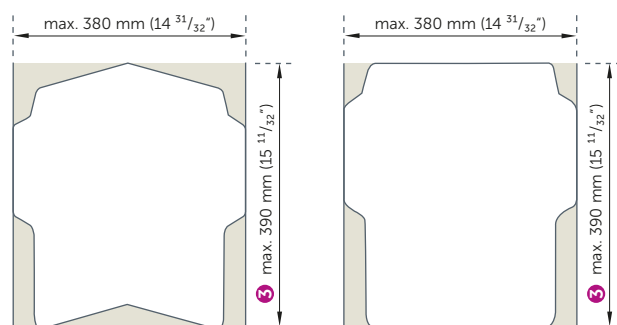
### Blank format



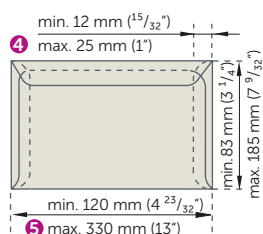
### Cut-out depth



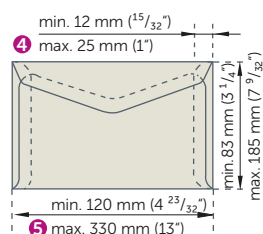
### Complete cut



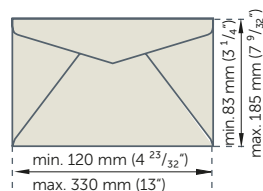
### End format



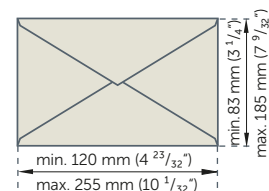
Booklet



Inserting-style



Commercial-style 6



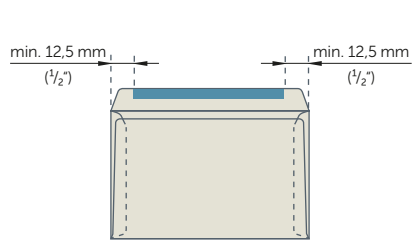
Diamond-style 6

- 1 Cut-off height from web (RC) min. 179 mm ( $7 \frac{1}{16}$ " )
- 2 Diamond shape from blank feeder max. 520 mm ( $20 \frac{1}{2}$ " )
- 3 In case of a complete cut from a rectangular sheet with circumferential contour the cut-out height will be reduced to 373 mm ( $14 \frac{11}{16}$ " )
- 4 Outside side flaps are possible with special folding tools
- 5 Maximum size width in respect to the width of the side flaps
- 6 Only W+D 628 C

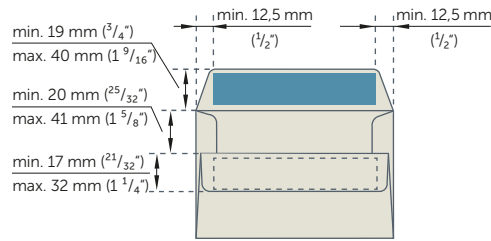
All binding data concerning the dimensions and formats for each machine type can be found in the performance data sheet.

## Dimensions and formats

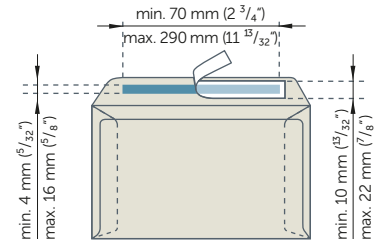
### Seal flap gumming



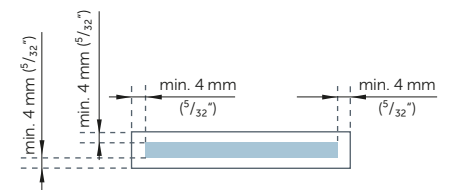
Remoistenable gumming



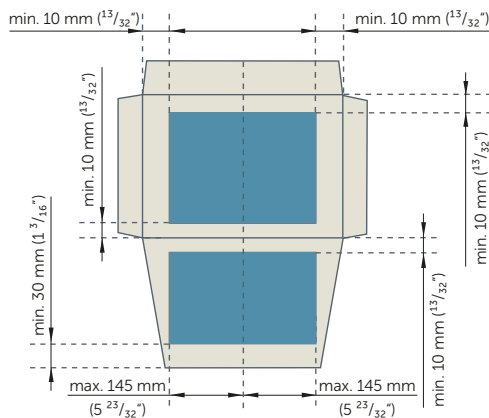
Self-seal gumming



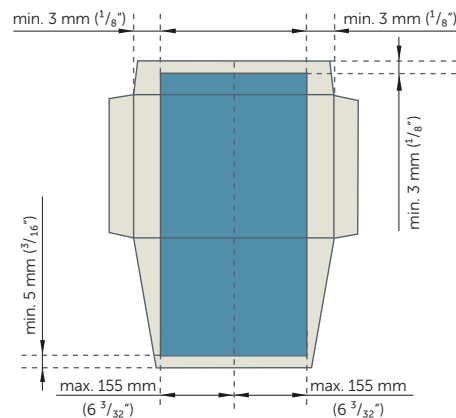
Hot-melt pressure-sensitive gumming



### Window range



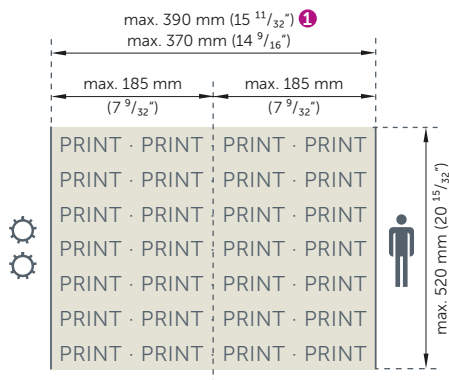
Cutting area



Patching area

### Printing range

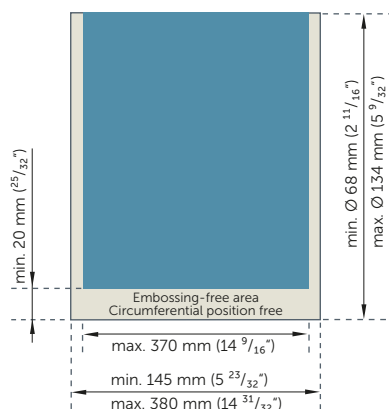
Flexo printing units for inside and outside printing



- ① with restricted sidelay register (+/- 3 mm)  
② with perforation cut

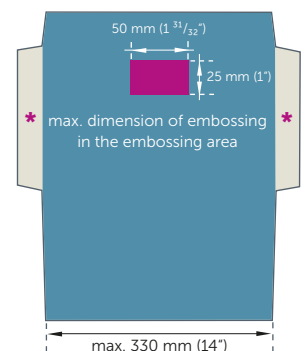
### Embossing area

Web embossing (Polymer, opt. Steel) ②



Restrictions:  $n_{max} = 1,000 \frac{1}{min.}$  – recommended:  $n_{max} = 800 \frac{1}{min.}$   
Paperweight: max. 120 g/m<sup>2</sup>

Blank embossing (Steel)



\* Do not emboss side flaps

All binding data concerning the dimensions and formats for each machine type can be found in the performance data sheet.



## Technical Specifications

Type			628 C	628 BC	628 KC	628 RC
Maximum output Envelopes per minute	Remoistenable		900		900 / 1,200 ❶	1,200 ❶
	Hot-melt pressure-sensitive gumming		900		900 / 1,100 ❶	1,100 ❶
	Self-seal gumming		800		800	800
Paper weight	Standard		70 – 150 g/m² (18,5 – 40 lb)			
Size ranges	Booklet		min. 83 mm (3 <sup>27</sup> /100") x 120 mm (4 <sup>72</sup> /100")			
	Commercial style		max. 185 mm (7 <sup>28</sup> /100) x 330 mm (13 <sup>99</sup> /100")			
	Diamond style		min. 83 mm (3 <sup>27</sup> /100) x 120 mm (4 <sup>72</sup> /100") max. 185 mm (7 <sup>28</sup> /100") x 255 mm (10")		– –	
Size hight	with open seal flap		min. 100 mm (3 <sup>15</sup> /16") – max. 220 mm (18 <sup>21</sup> /32")			
Paper reel	Diameter		–	1.530 mm (60 <sup>1</sup> /4")		
	Width		–	max. 390 mm (15 <sup>11</sup> /32")		
	Winding core inner diameter		–	127 mm (5") oder 153 mm (6")		
Blank dimensions (blank-fed)	Length		min. 170 mm (6 <sup>11</sup> /16") – max. 390 mm (15 <sup>11</sup> /32")			–
	Width		min. 140 mm (5 <sup>1</sup> /2") – max. 380 mm (15")			–
Blank dimensions (roll-fed)	Length		–	min. 179 mm (7 <sup>5</sup> /100") – max. 390 mm (15 <sup>35</sup> /100")		
	Width		–	min. 145 mm (5 <sup>71</sup> /100") – max. 380 mm (14 <sup>95</sup> /100")		
Window material (reel)	Window matrial reel	Diameter	max. 500 mm (20")			
		Width	min. 45 mm (1 <sup>25</sup> /32") – max. 300 mm (11 <sup>13</sup> /16")			
	Winding core inner diameter		70 – 77 mm (2 <sup>3</sup> /4" – 3 <sup>1</sup> /32"); Mono unwind up to 80 mm (3 <sup>5</sup> /32")			
	Cut-off length		min. 36 mm (1 <sup>7</sup> /16") – max. 185 mm (7 <sup>9</sup> /32")			
Silicone paper	Silicone paper reel	Diameter	max. 500 mm (20")			
		Width	min. 80 mm (3 <sup>5</sup> /32") – max. 300 mm (11 <sup>13</sup> /16")			
	Winding core inner diameter		70 – 77 mm (2 <sup>3</sup> /4" – 3 <sup>1</sup> /32"); Mono unwind up to 80 mm (3 <sup>5</sup> /32")			
	Protective strip cut-off length		min. 10 mm (1 <sup>3</sup> /32") – max. 22 mm (7/8")			
Printing length (web)	W+D 201 optional		–	–	Full or partial print up to max. print width is possible.	
Printing width (web)	W+D 201 optional		–	–	380 mm (14 <sup>31</sup> /32")	
Printing length (blank)	On-board blank printing units		–	max. 390 mm (15 <sup>11</sup> /32")		–
Printing width (blank)	On-board blank printing units		–	max. 520 mm (20 <sup>1</sup> /2")		-
Dimensions	Length		10,206 mm (33.5 ft)	12,592 mm (38 ft)	17,406 mm (57.1 ft)	21,278 mm (57.1 ft)
	Width		5,000 mm (16.4 ft)	5,000 mm (16.4 ft)	5,270 mm (17.3 ft)	5,270 mm (17.3 ft)
	Height		2,610 mm (8.6 ft)	2,610 mm (8.6 ft)	3,023 mm (9.9 ft)	3,023 mm (9.9 ft)
Compressed air	6 bar		42 m³/h (1.483 ft³)			
Vacuum requirements	0,6 bar		1,250 m³/h (44.143 ft³)			
Blowing air	0,8 bar		140 m³/h (4.944 ft³)			
Connected load (50 Hz)	Basic machine		85 kVA	90 kVA	130 kVA	120 kVA
	Material suction		8 kVA			
	Vacuum pumps		52 kVA			
	Hot-melt pressure-sensitive gumming section		12 kVA			
	2nd window section		12 kVA			
Noise emission According to specification EN 13032	Feeder		90,5 dB (A)			–
	Delivery table		87,0 dB (A)			87,7 dB (A)

❶ Using the blank feeder reduces the output to max. 900 env./min  
Printing speed depends on drying behaviour and ink application for the on-board print units

All performance data published refers to the production of a defined reference product under certain circumstances reflecting a possible practice of use. The performances achieved in practice depend on a multitude of parameters which are beyond our control. This includes, amongst other factors, the condition of the raw materials to be processed, the shapes of the products, the air humidity and the ambient temperature. W+D reserves the right to make design changes and changes to the performance values.

**Winkler+Dünnebier GmbH (W+D)**, part of global equipment manufacturer Barry-Wehmiller and its BW Converting Solutions platform of five industry leading brands, specializes in the design and manufacture of high-performance converting machinery for the tissue, nonwovens, hygiene, package-printing and bag-converting industries worldwide.

With more than 100 years of experience, W+D is the only engineering company to cover the entire envelope mail production value chain: from converting, printing and value ad enhancement systems for the manufacturing of envelopes to highly intelligent mail inserting technology. All with the aim to produce the most complex and personalized letter mail packages for postal system intake.

**For more about W+D, visit [w-d.de](http://w-d.de).**

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