

W+D BB1000 and BB1000+

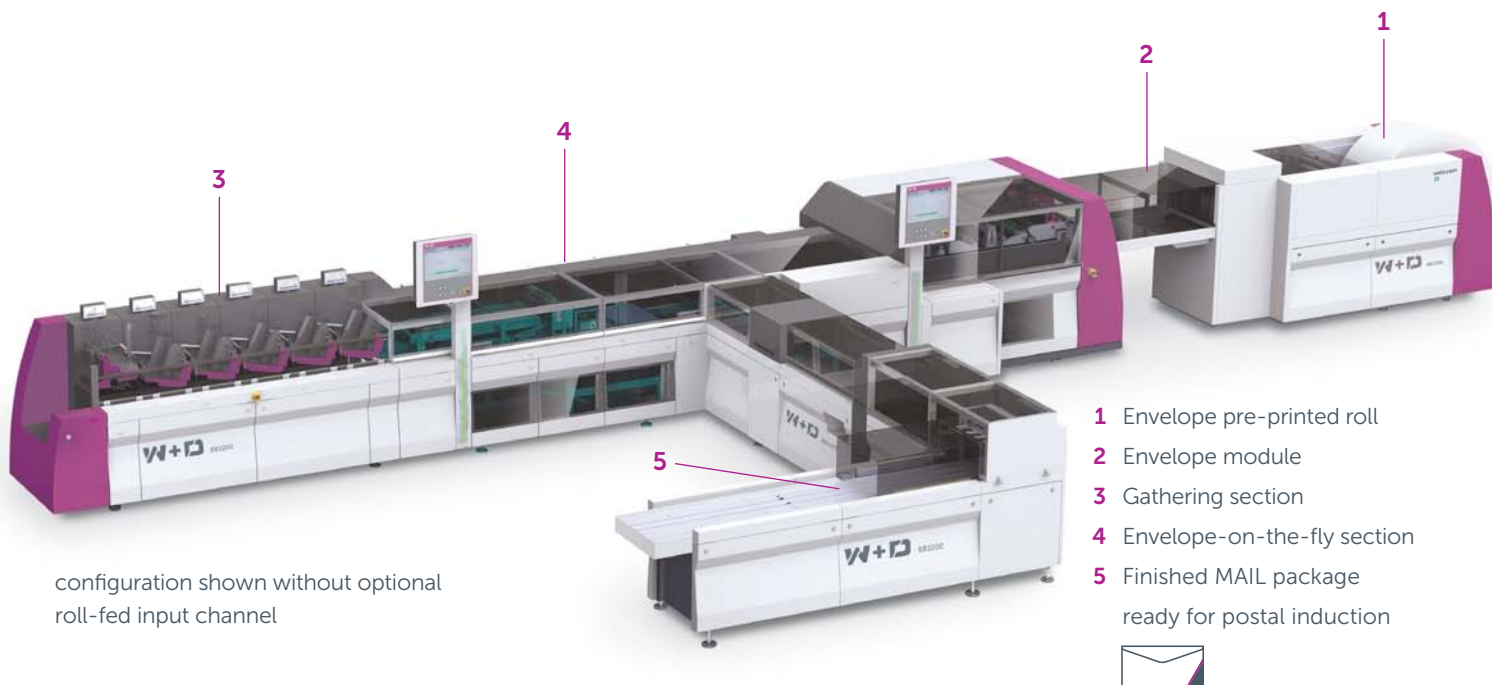
The envelope finishing + inserting solutions for completely personalized direct mail letter packages from your existing digital press



W+D

The power of the envelope letter mail package is superior in the world of personalized data driven direct mail

The power of the envelope is real in the world of direct mail. No longer is high print quality 1:1 direct mail only relegated to a postcard or self-mailer. W+D now takes the proven effectiveness and superiority of an envelope mail package to a new level with data driven 1:1 personalized envelopes to engage and enhance the personalized and complete messaging content inside the envelope. The W+D BB1000 and the 9x12", C4 capable W+D BB1000+ produce real envelope mail packages – NOT A WRAP. Complete envelope mail packages with windows, foiling and shape-cut value add enhancements made from your existing digital print.

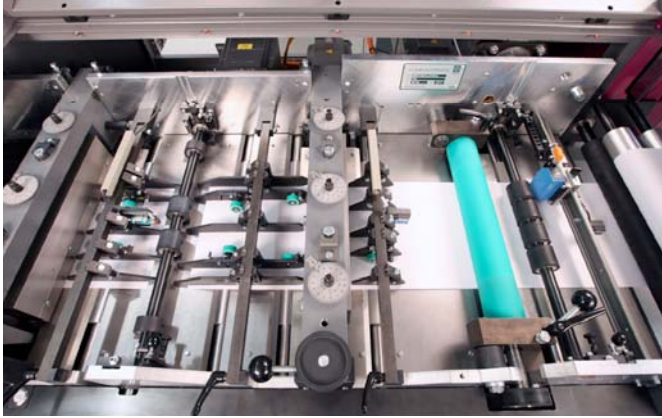


configuration shown without optional roll-fed input channel

W+D BB1000 speeds up your time-to-mailbox while reducing production touch points for a completely personalized envelope direct mail package

The W+D BB1000 process workflow begins with the new ease-of-use envelope converting technology of the W+D Easy Enveloper to create engaging, haptic, windowed, foiled envelopes and also some specialty shape cut USPS TED-C shapes from digital preprint. As the preprinted web is being converted in the enveloping section of the W+D BB1000, it then securely "envelopes-on-the-fly" the inside content material using inserting technologies from the W+D BB700 and W+D BB820 direct mail inserter designs. These W+D inserters are renowned for size and product range flexibility, inserting

intelligence and high-net production outputs. The completed envelope package from the W+D BB1000 is a mail piece ready for induction directly into the USPS mail stream. This new game-changing finishing solution for preprinted rolls has been designed for a wide range of product enhancements and flexibility delivering high-performance and ease of use in both converting and inserting to unleash the highest quality completed personalized direct mail package. The W+D BB1000 can produce a variety of hard to insert sizes: a true A7 (5 1/4" x 7 1/4") with a 2 3/8" square flap and 3/4" throat with 5 x 7 card; 6 x 9" booklet with a #9 BRE or 8 7/8" CRE! The W+D BB1000 has optimized side to side clearance inside the envelope of only 3/16".



Envelope Converting unit with side score and cross cutting section

What can the W+D BB1000 do for you?

- / Secure, intelligent and attractive mail piece creation "enveloped-on-the-fly" enabling fastest time-to-mailbox
- / Consistent and efficient production as the workflow takes away critical issues with traditional envelopes and the automatic synchronization of personalized insert and envelope utilizing W+D's patented Auto Mismatch recovery technology.
- / Bundling and comingling opportunity for postage optimization and best capacity utilization
- / Production on demand reduces inventory imbalances between inserts and outer envelopes
- / Unprecedented tight side to side tolerances offer substantial paper savings, only requires $\frac{3}{16}$ " side to side clearance.
- / Reduced logistic efforts and expenditures: web to postal tray
- / Use your existing digital roll press assets for full-face, seal flap and back panel digital printing for individualization or personalization in highest print quality
- / Can be used to manufacture only envelopes that can be sealed in secondary inserting process
- / Optimized total cost of ownership (TCO) with the industry's highest level of total benefits of ownership (TBO)



Complete cut using foil knife on magnetic cylinder, vertical vacuum transport

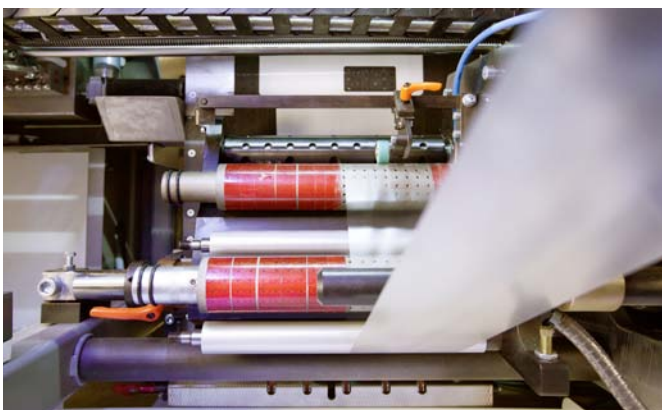
Quick change feeder choices

With a wide range of available feeders, you can optimize the processing of any insert:

- / Rotary feeder
- / Rotary feeder with 90° kit or separator disc
- / Vacuum friction feeder
- / Shuttle feeder
- / Pick & Place feeder with or w/o hot melt
- / Divert on the track to support Auto Mismatch Recovery with the OE
- / Upper elevated track for personalization of reply envelopes or premium – freemiums

Other options for your direct mail production needs

- / Intelligent cut sheet or 2-up continuous input channels
- / Autoloaders SL2 (90°) supporting various feeders and locations
- / Vertical conveyor OC4 and semi-automated traying solution
- / Software options for intelligent and advanced integrity requirements
- / Monochrome inkjet overprinting head for inline personalization of offset printed shells
- / Window patching and foiling section



Window patching unit



A camera capturing the 2D code on the lead edge of the envelope blank



True side seam envelope featuring bleeds, personalized face, flap and back panel

High speed reel unwinder

- / Web tension control and internal dancer roller paper buffer
- / Web alignment system

Converting section

- / Register control for processing of pre-printed webs
- / Precise side and cross scoring
- / Servo-controlled separating cutting section
- / Cutting section for complete cut with flex dies
 - Precise cutting of envelope blanks with flex die Foil knife on magnetic cylinder for complete cut.
 - Quick Change knife covers full width of magnetic cylinder
 - No extra taping necessary
 - No time consuming cleaning of magnetic cylinder when changing dies
 - Valve position marked on foil knife
 - Knives are automatically centered by the W+D knife pinion system
 - Full width foil knives save time for taping the vacuum holes. All necessary holes are not covered by foil knife
- / Window patching unit (optional)
 - Window material conveying section
 - Adhesive application section for hot and cold melt glue



Inserts placed on envelope blank and plough folding of side seams

Transfer section

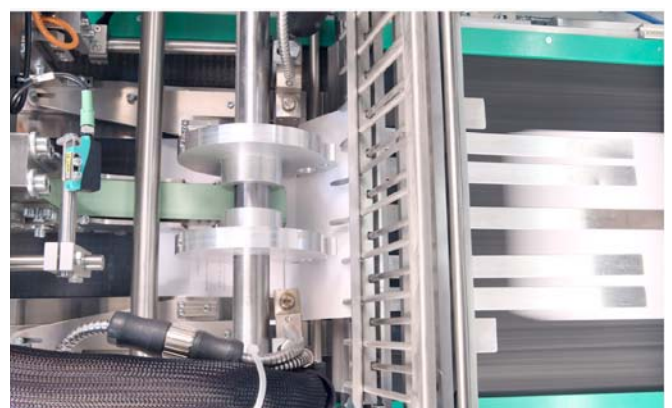
- / Vacuum transport section linking envelope converting and inserting-on-the-fly modules
- / Camera position for matching envelope blank to content
- / Printer position (optional) for the personalization of (offset) printing shells

Envelope-on-the-fly-section

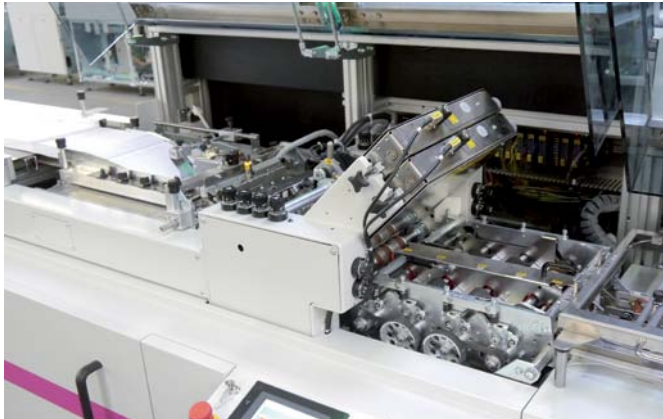
- / Envelope gripper transport and escalation to operating level
- / 180° turning and reversing of transport/running direction for of envelope blank
- / Merging of envelope blank and content, inserts placed precisely on envelope blank
- / Plough-Folding of side flaps – format adjustment by manual setting
 - Application of hot melt glue to the side flaps
- / Lifting and folding of bottom flap
 - Vacuum supported lifting shaft and buckle fold unit
- / Servo-driven format adaption
 - Synchronization of speeds (envelope blank and inserts) to guarantee accurate inserting (enveloped-on-the-fly) – at full speed
- / Divert gate for envelopes missing a matching content



Extremely tight packages < 1/4" inserting clearance



Lifter shaft for envelope back panel with buckle folder



High-performance cut sheet input channel

High performance input channels

The modularity and flexibility of the W+D BB1000 includes the choice of input channels, heavy duty cut sheet feeder/folder or 2up- continuous roll infeed to process your digitally printed input into variable or static page count sets. The fully integrated intelligent feeders are rated at 45,000 sheets/h and the four pocket folder features Autoset functionality

Feeders

The W+D BB1000 is compatible with the range of feeders offered by the W+D BB820 and W+D BB700 – rotary, friction, shuttle feeders, Pick and Place feeders or the elevated track for inline Inkjet printing or affixing. Feeders are modular and your BB1000 can be configured to job; the feeder sequence on the track can be changed in minutes and feeders can even be shared between W+D systems.

One advantage of W+D's inserter technology is the Rotary feeder with its consistent product separation and feeding at high speeds. Especially for intelligent applications when reading of one or multiple products is required the feeder will provide highest read rates as due to the gripper and belt transport timing of the product is defined and consistent; also the feeder provides for the largest read areas on the product.

Rotary feeder W+D RF3

The W+D RF3 was developed for the processing of standard size products, say an 8 1/2 x 11" half fold, at high speeds of up to 20K.



W+D RF3 rotary feeder with camera display



High-performance 2-up continuous input channel

The enlarged feeder drum, independent vacuum provision for the suckers across the product width, the use of a vibrator for the backrest in the hopper and blow air in the oscillator ensure that documents are reliably separated and transferred to the track.

Rotary Feeder W+D RF4

Based on the W+D RF3, the new RF4 rotary feeder will securely handle standard size documents at 20K but moreover will handle 8 1/2 x 11", A4 size products with a thickness of up to 1/8" or 3 mm.

Friction feeder W+D HF2

The W+D HF2 hybrid feeder, combining friction and vacuum, will complement the W+D RF3 or W+D RF4 as it handles open edge products such as Z-folds, thicker brochures and rigid products outside the specs of a rotary feeder.

Vacuum transport on the gathering section/elevated track

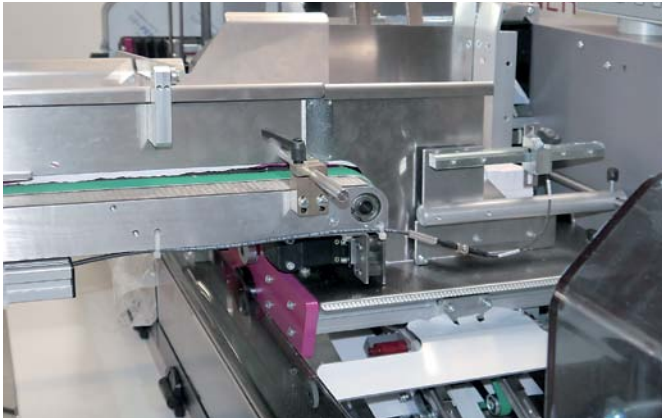
The modular vacuum conveyor belt on the gathering section allows inline personalization / printing or the affixing of cards, coins etc. at high running speeds and precision, with the possibility of camera verification on the unit.

W+D Pick and Place feeder

The perfect feeder for the accurate placement of credit, loyalty or membership cards or coins. Using a hot melt glue system either in the track or on elevated track for even better control and throughput.



W+D HF2 hybrid – friction/vacuum feeder



Autoloader SL2

Turnover belt on the gathering section

A turnover belt on the gathering section is also available where inline affixing or printing applications require a change in product orientation.

Autoloader W+D SL2

The W+D SL2 autoloader reduces the loading frequency of the feeders on the track and thus optimizes the manning of the system and output per operator.

It will also maintain a consistent and defined fill level in the hopper minimizing misfeeds and consequent stops and thus increasing efficiency and net output.

The W+D SL2 supports all common W+D feeder types as rotary, friction and shuttle. Positioned at 90° to the track multiple autoloaders, two per base, can be used on a single system.

Divert on the track

The Eject Gate on the Track is a component of W+D's patented Auto Mismatch Recovery concept. It will receive personalized inserts with no matching, corresponding envelopes and thus avoid a machine stop and operator intervention as a result of a sequence error, vital in supporting a consistent, uninterrupted production when merging personalized streams.



Divert on the track

Vertical delivery W+D OC4

At high speeds in particular, the „on edge“ conveyor W+D OC4 is the perfect delivery option. The W+D OC4 allows 4 to 10 times more products on the working table, reducing clearing frequency and number of operator steps, thereby optimizing system and operator productivity. A kicker for a physical offset on a ZIP or tray break is a standard component of the W+D OC4. The multi format unit will also handle 9 x 12" or C4 sizes.

W+D PT4 tray assist

As a perfect extension to the W+D OC4 on edge conveyor, the W+D PT4 makes postal tray palletizing easy. With just a few simple steps, the inserted envelopes can be positioned over the postal tray and then securely dropped into it for easy palletization via conveyor.

Utility infrastructure included

Unless internal house facilities are available the W+D BB1000 will commonly be provided as a "turn key solution" with the necessary infrastructure as

- / Central vacuum cabinet with required vacuum and blow air pumps
- / Paper waste extraction unit
- / Hot Melt systems
- / Transformers

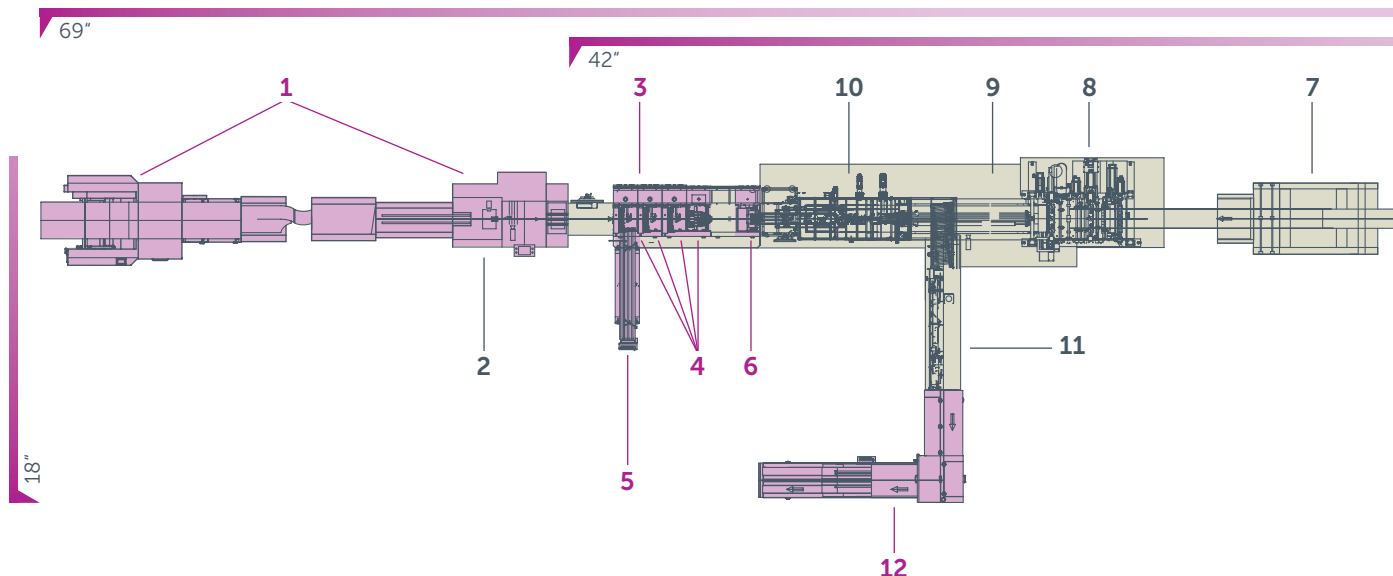


Delivery configuration with W+D OC4 and W+D PT4



Finished mailing on delivery table

Machine layout



- 1 Input channel – 2-up continuous roll with unwind
- 2 Input channel – sheet cut
- 3 Gathering section
- 4 Feeders – RF3 (with cameras), HF2
- 5 Autoloader SL2
- 6 Eject on the track

- 7 Unwinder for envelope web
- 8 Envelope converting module
- 9 Transfer section with camera
- 10 Inserting on the fly
- 11 Sealing section
- 12 Vertical delivery OC4

Technical Specifications

Type		W+D BB1000 (Standard Format, 6 x 9")	W+D BB1000+ (Multi Format, 9 x 12", flats)
Mechanical performance		20,000 pcs/h	20,000 pcs/h (C5 – 6 1/2 x 11 1/2") 16,000 pcs/h (C4 – 9 x 12")
Envelope	Size min. ❶	98 x 162 mm, C6 – US 7 3/4", #9, A6	
	Size max.	165 x 292 mm (6 1/2 x 11 1/2")	229 x 324 mm (9 x 12")
	Grammage	75 – 150 g/m ² (20 – 40 lbs)	
Insert	Size min.	80 x 142 mm (3 1/8 x 5 5/8")	
	Size max.	148 x 285,75 mm (5 1/2 x 11")	216 x 297 mm (8 1/2 x 11")
Product thickness	Rotary feeder	max. 1 mm (3/64") RF3	max. 3 mm (1/8") RF4
	Shuttle feeder ❷	max. 8 mm (1/3")	
	Vacuum/friction feeder	max. 8 mm (1/3")	
Accumulated thickness		max. 8 mm (1/3") depending on side-flaps	
Modularity	Feeder basis	6 or 8 stations	
	Extension	4 or 6 stations	
	Window section ❸	option	
Possible configurations	Gathering section	standard	
	Cut sheet channel	option	
	Roll in feed channel	option	
Length		Basic machine: 12,620 mm (41.5 ft) – Machine with roll in feed channel: 20,890 mm (68.6 ft)	
Power requirements		400V/230V 3AC/N/PE 50/60Hz (other executions on request)	
Max. feeder configuration		12	

❶ The OC4 will support sizes of 114 x 162 mm or 98 x 184 mm, C6, DL (A7 – 5 1/4 x 7 1/4", US 7 3/4 – 3 7/8 x 7 1/2") up to 9 x 12" or C4

❷ The SF2 Shuttle feeder is rated at 12K

❸ Window film: thickness max. 0,029 mm (0.0011"), width max. 150 mm (5.90"), roll dia max. 500 mm (19.68"), core dia 75 mm (3")

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-Wehmler 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.

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BW Converting Solutions



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