



STOCK

Sheet-to-Sheet Laminating
Machines for Laminating
single- and double-faced
corrugated sheets as well as
other materials

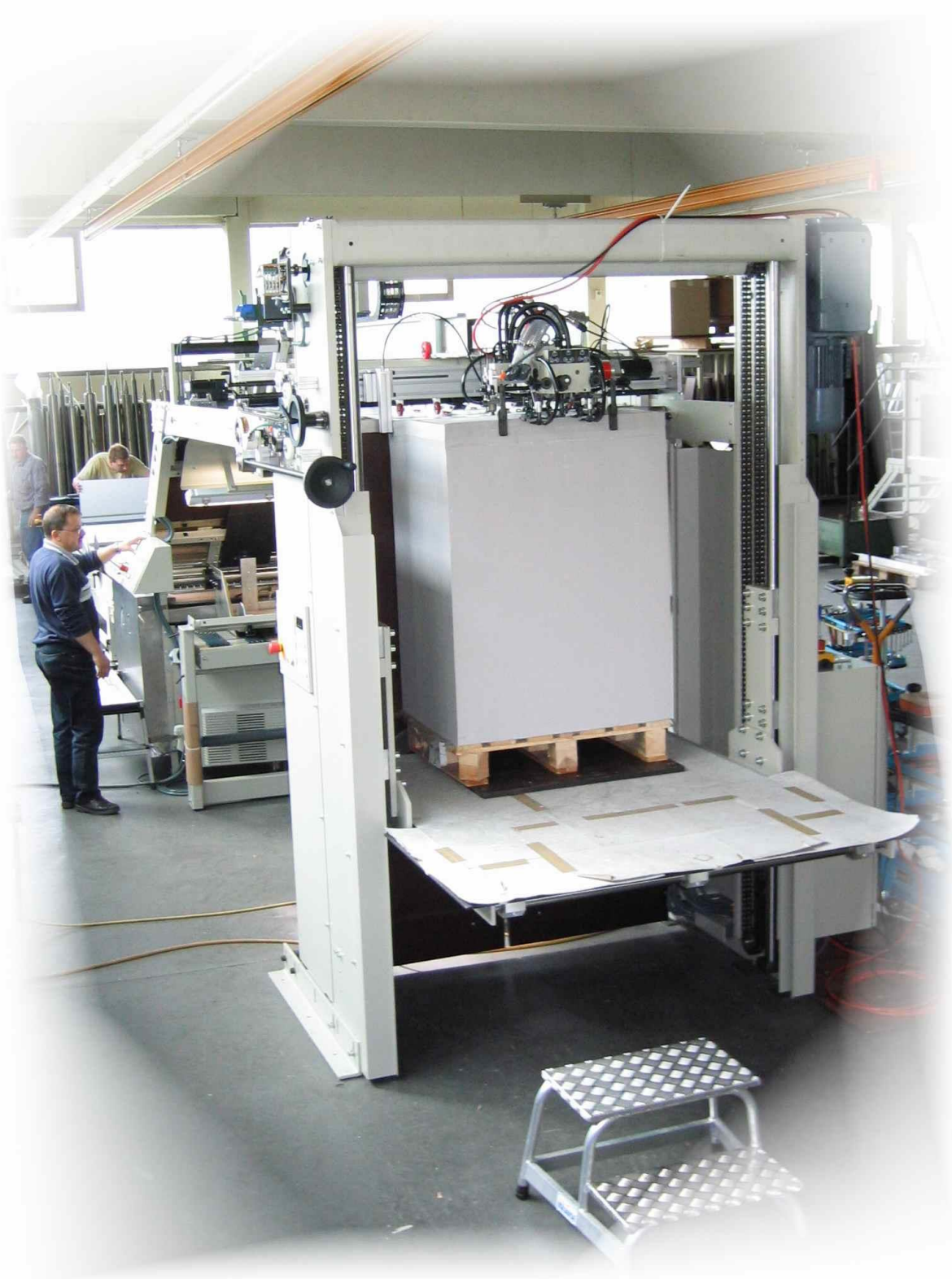
High Speed Sheet-to-Sheet Laminator Model 14R5678 / P

- Automatic laminator for mounting substrate sheets together with litho printed labels / sheets with an accuracy approx. $\pm 1-1.5$ mm.
- Equipped with an automatic bottom sheet feeder, automatic top (printed) sheet feeder, as well as a simple delivery table for manual take-off of the mounted sheets. Could be up-graded (automated) with an automatic non-stop down-stacker and a flip-flop (batch pile-turner) just from the beginning or at any later date.
- Single sheet feeding of printed sheets to the mounting machine.
- Production (speed) for an automatic machine: up to 8,000 sheets per hour with 2 – 3 operators. Suitable for mounting substrate sheets – i.e. single- (E-, B- and F-flute, etc.) and double-face corrugated board up to 7mm thickness and some solid board from 0,8 mm calliper upwards to 2 mm, together with litho printed labels / sheets of paper and board from 120 – 400 gsm.

Sheet-to-Sheet Laminator with manual take-off table model 134R56/.... P

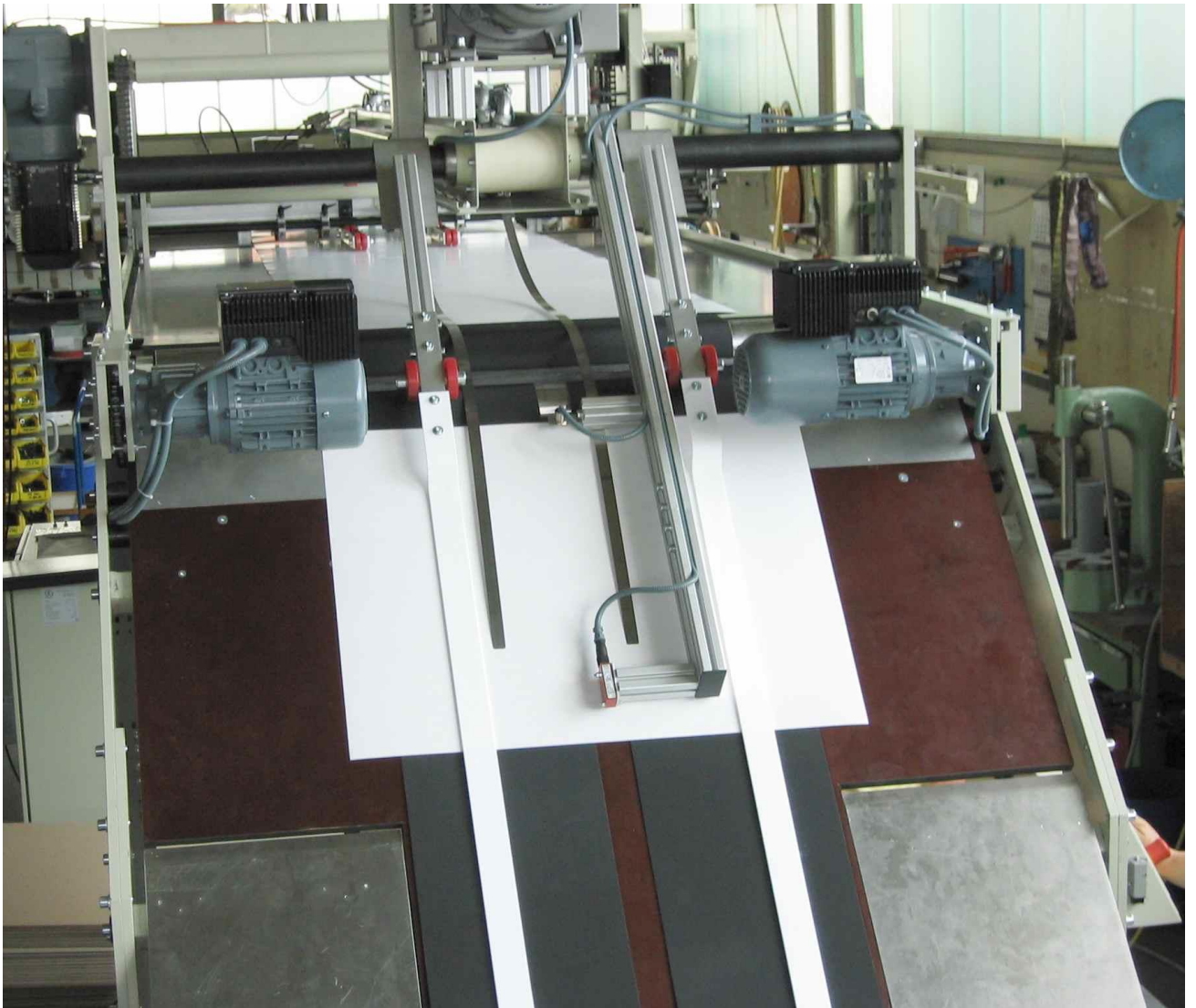
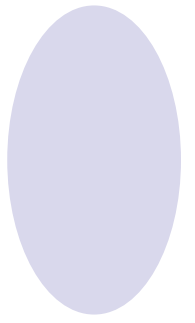
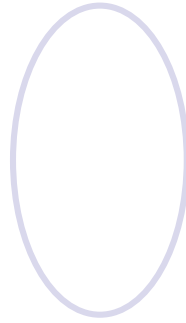
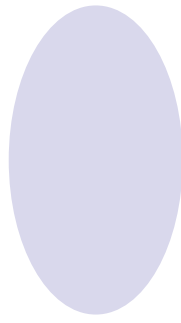
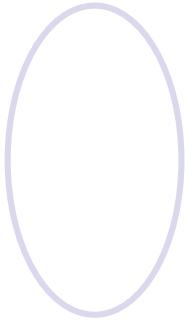
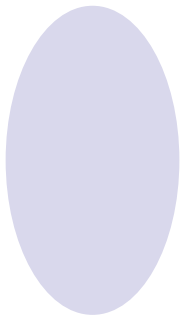


Sheet-to-Sheet Laminator with manual take-off table model 134R56/.... P



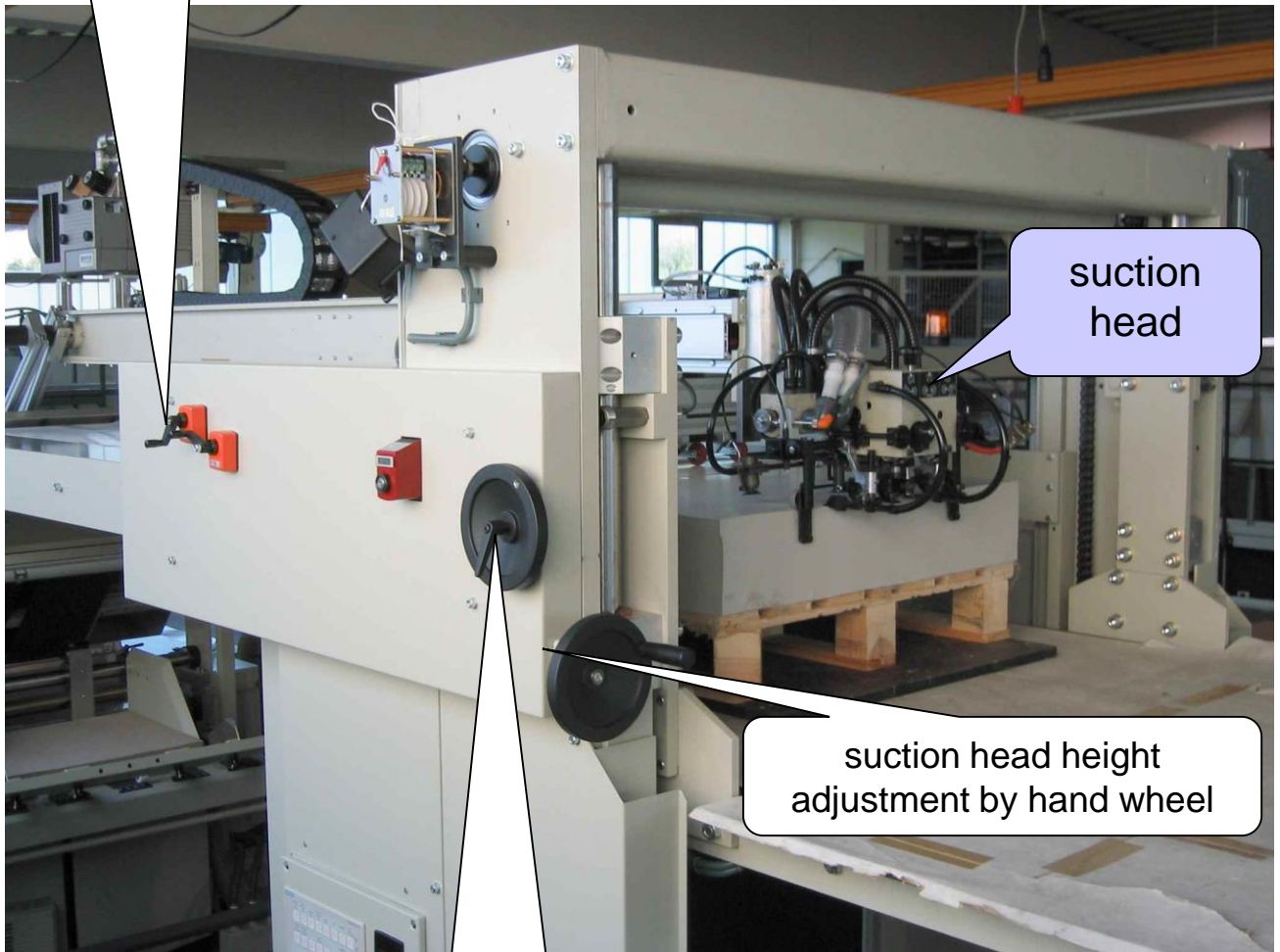
Feeding table for printed sheets without adjustable transport rollers – short make ready time





New designed printed sheet feeder model 6 – all adjustments can be carried out from the operating side

adjustment of sheet width – side guides

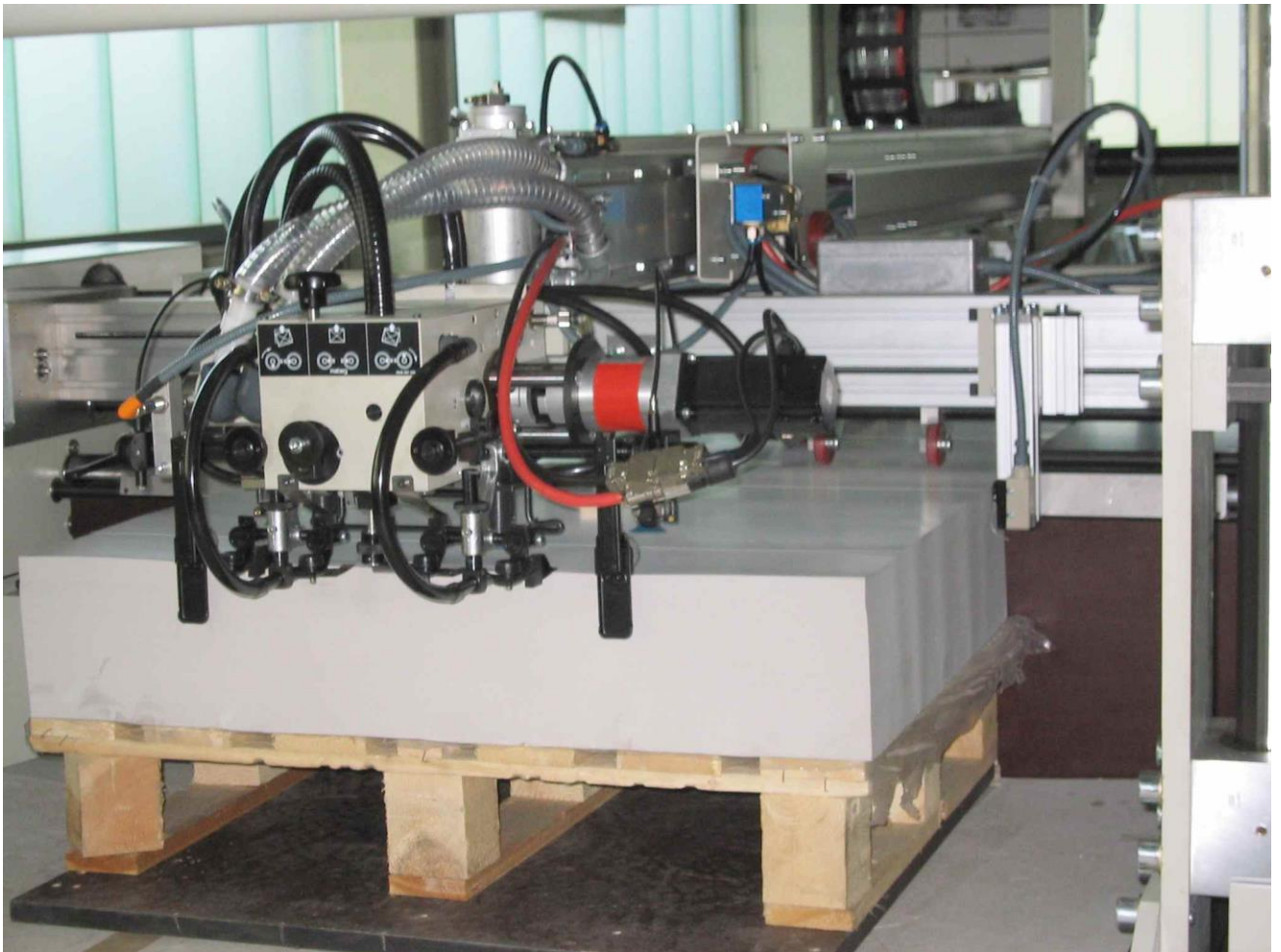


suction head

suction head height adjustment by hand wheel

adjustment of sheet length by hand wheel

Suction head with direct drive (servo motor)



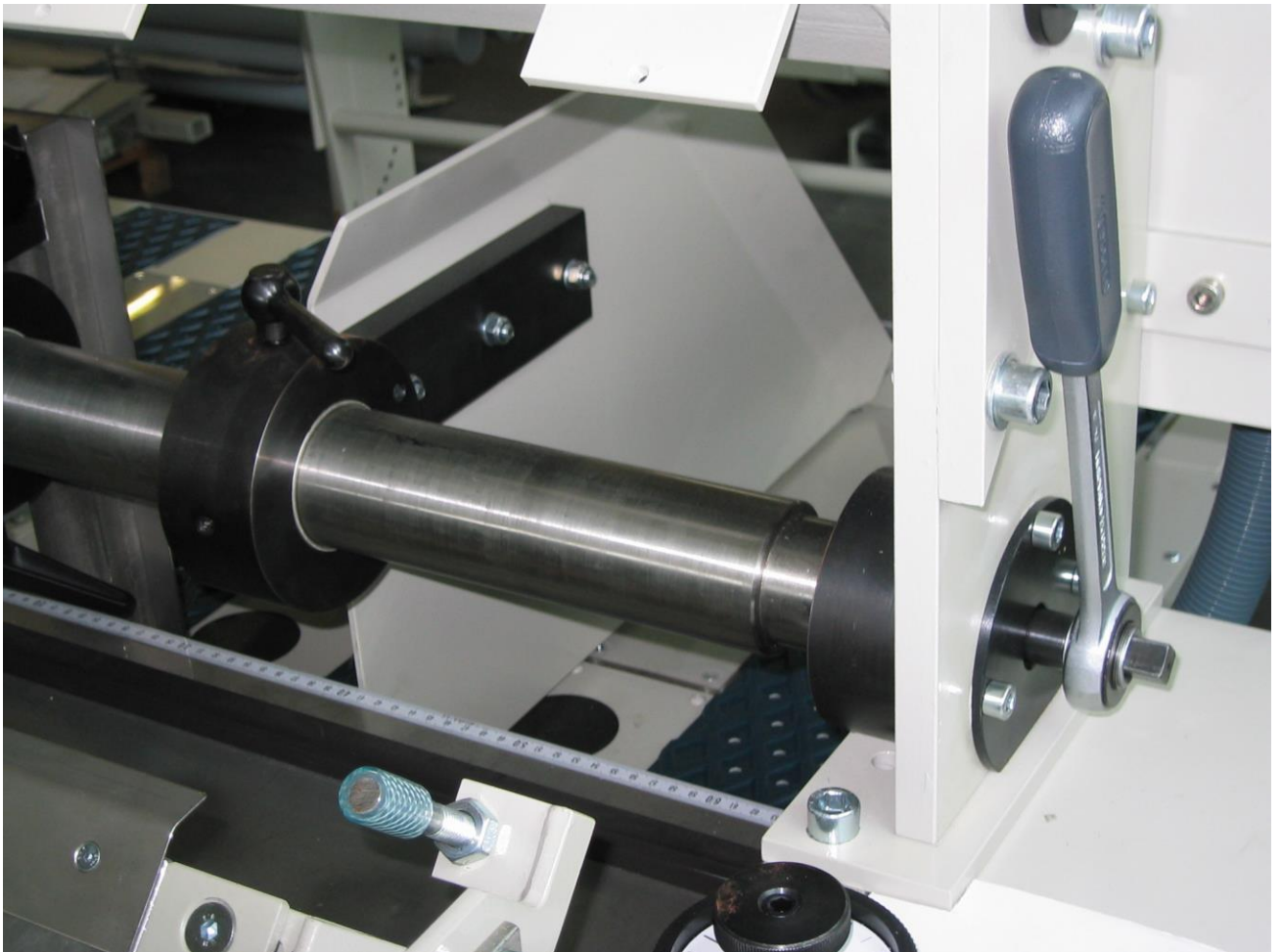
Single sheet (printed label) feeding



Suction belt feeder model 4R – for (substrate) corrugated and board sheets



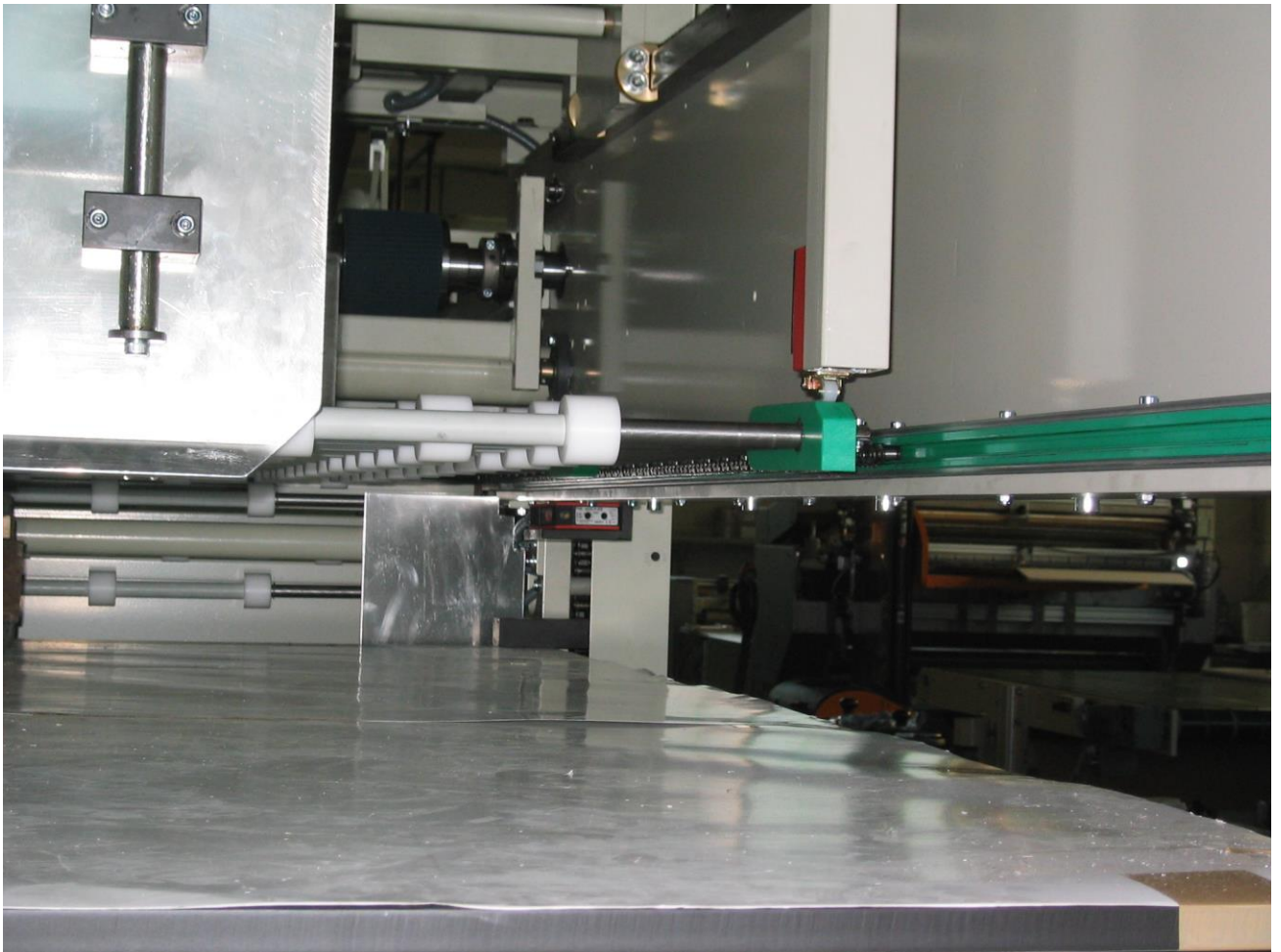
Simple lateral adjustment of the substrate sheet feeder – to correct the side register (± 15 mm)



Gluing unit with application and metering (squeeze roller) – made of different material – emergency running property – easy cleaning, short wash-up time



Down-Stacker model 7 – in non-stop



Description of the automatic height speed laminating machine model 134R5678

Basic LAMINATING MACHINE – Model 1/P

- Compact unit composed of a gluing and mounting / laminating station.
- Mechanically registering system: the overlapping of the top and of the printed sheet can be adjusted.
- Register setting: fast and simple adjustment, just 2 or 3 sheets necessary.
- Gluing unit with 2 glue rollers made of stainless steel and bronze – emergency property.
- The glue is applied to the substrate sheet.
- Automatic glue feeding (P) for cold-glue (PVA) – diaphragm pump.
- Intermittent glue supply: only the glue used is fed in newly.
- Simple and fast make-ready since the gap between the rollers (sheet thickness) are adjusted central and parallel by 2 hand wheels:
 - one hand wheel for adjusting the substrate (carrier) sheets only.
 - a 2nd hand wheel for the adjustment of both sheets – substrate and top sheet – together.
- Short set-up (make-ready) times, allows both short orders and long runs to be completed efficiently and economically – minimum waste for machine set up.
- Fast and simple cleaning of the glue rollers: just using water, without auxiliary tooling. Wash-up time: 5 minutes.
- Proven and compact construction with minimum space-requirement, with high working reliability.
- Modular design, therefore gradually extendable at any time.



TAKE-OFF TABLE – model 3

- Manual take-off and stacking of the laminated sheet on a pallet.

SUCTION-BELT FEEDER – model 4R

- Fitted (onboard) magazine sheet feeder, with vacuum – for single sheet feeding.
- Non-stop feeding of single-, double-face corrugated or solid board sheets, from the bottom.
- Manual pre-loading of the sheets into the magazine of the feeder.
- Restricted pre-loading height of the feeder, especially for solid board.
- Fitted with an inverter-controlled motor, for timed feeding.
- Suitable for warped corrugated sheets as well.
- Simple lateral adjustment of the complete magazine by use of a ratchet spanner: approx. ± 15 mm. Simple lateral sheet correction. To correct the side register of the printed sheet is more difficult.

PRESSURE BELT – Model 5

- For pressing (grinding) the laminated / mounted sheets together, especially single-face corrugated.
- Sheet passage through the pressure unit: shingled. Single sheet travel is possible as well.
- In case of adding a down-stacker the pressure belt has to be put diagonal (inclined).
- Equipped with an automatic lateral guiding control (centring system) for the bottom conveyor belt.
- Adding a down-stacker, the pressure belt (5) has to be inclined.

Automatic PRINTED SHEET FEEDER model 6S

- High speed back-edge top sheet stream feeder.
- Equipped with a suction head, with lifting and forwarding suckers.
- Sheet feeding: stream (shingled) feeding into the laminating unit.
- With independent (servo) drive system for the suction head.
- Independent main drive motor for the feeder and sheet delivery table.
- Digital display for the machine production in sheets per hour.
- Including a vacuum pump, as well as a double-sheet detector.
- Including a pile security device (expansion bellow).
- Motorized lateral pile board centring: approx. +/- 25 mm.
- Including a pit-frame. Therefore it is necessary to prepare a whole in the ground floor, 140 mm deep. Advantage: the pallet can be moved to the pile board at the ground (floor) level, without ramp.
- Attached (connected) to the laminator by a conveyor table with one or two wider belts, without adjustable transport rollers.
- Manual adjustment of the suction head, depending on sheet size and quality:
 - Simple and fast length adjustment of the suction head by use of a hand wheel from the operator side – with digital position indicator.
 - Simple and fast high adjustment of the suction head by use of hand wheels from the operator side.
- – Adjustment for the side guides in the feeder (dependent on the sheet width): from the operator side – with digital position indicator.
- Sheet control by photo cell (single sheet feeding) or laser (stream feeding).
- Including a movable pedestal (platform) with ladder: for the suction head adjustment.
- Option available: pneumatically controlled push-lay on the left (operator) side, for lateral alignment of the printed sheets combined with a drop in performance of 1/3.

Automatic Non-Stop DOWN-SACKER model 7

- Suitable for an accurate piling / stacking of the mounted sheets to a pallet.
- Including a non-stop device for continuously production, with invariable storage capacity.
- Time available for a pallet change: approx. 45 seconds dependent on sheet thickness.
- Including pushers (joggers) for sheet registering: side and front edge – manual adjustable.
- Including a movable pedestal (platform) with ladder: for adjusting the stacker.
- Without roller conveyor. Available as an option. Price on request.
- Pallet exit: in running direction of the machine – standard.
- A manually operated lift truck is required to get a full pallet out of the stacker.
- Finishing the manual pallet change: just by pushing a push-button.
- Note: in case of problems with warped sheets it is necessary to use a flip-flop (batch pile-turner) as well.

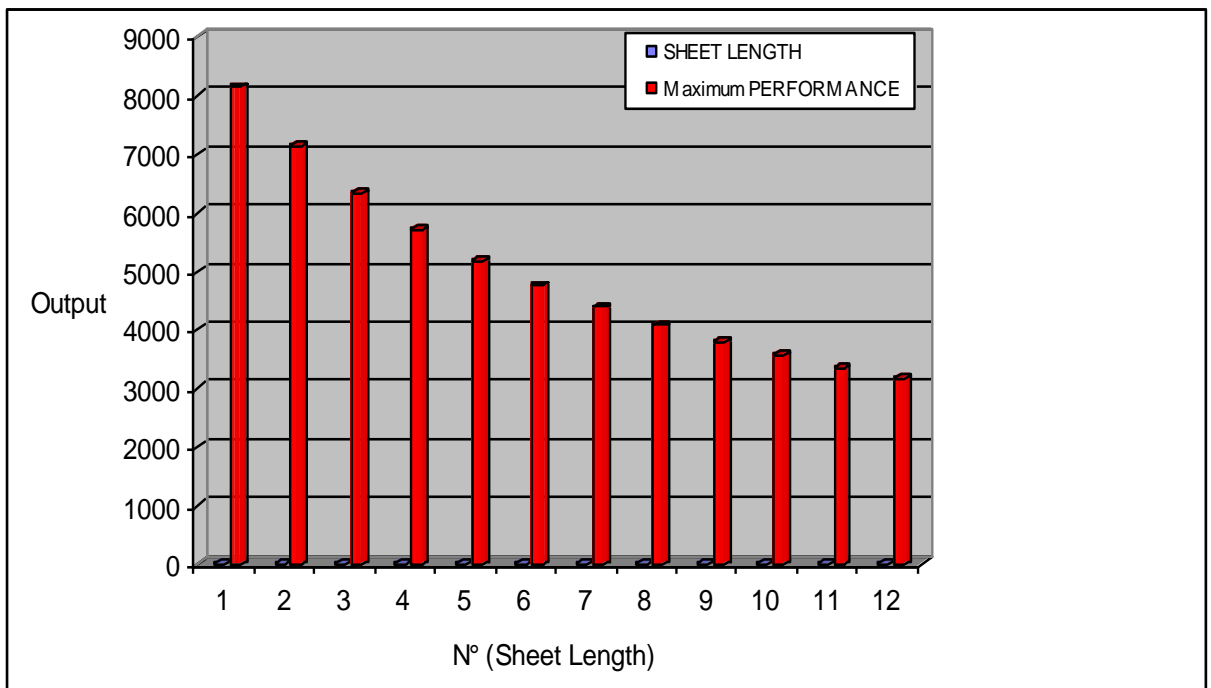


Automatic Non-Stop BATCH-PILE TURNER **(FLIP-FLOP) model 8**

- Flip-flop device for collecting sheet batches and suitable for turning / inverting the sheet batches alternately, depending on the sheet flatness.
- Consisting of a collecting unit, non-stop operation and a turning unit.
- Batch height of the collected sheets: up to 80 mm. Adjustable by a photocell.
- The flip-flop is necessary if the laminated (mounted) sheets are not flat. If the become warped (curled) after the mounting it is necessary to stack them alternately.
- Cat-walk and trestle for elevating the machine to a feeding (running) height of about 1,800 mm.
- Including an operating platform for the automatic delivery, at the operating side.
- Using the flip-flop 3 different operating modes are possible:
 - Turning every 2nd batch (alternately) !
 - Turning each batch !
 - Without turning !

CHART of OUTPUT for STOCK – SHEET-to-SHEET LAMINATING MACHINE Model 1(3)4R5678/.... P

- The output (production-rate) is dependent on sheet size, especially sheet length, quality of material, stiffness and paper grain direction, weight or caliper of the sheets, skill of operators, flatness and speed of the machine. For calculating the output – laminating single-face corrugated board with a 230 gsm offset printed board – the determination of the machine performance is based on the following formula: $P = \text{performance} / \text{output} [\text{sheets per hour}] \cdot L = \text{sheet length} [\text{meter}]$
- Maximum PERFORMANCE: $P = 5,700 / (L + 0.2)$ [sheets per hour]
- Sheet Length: 1=0.5m / 2=0.6m / 3=0.7m / 4=0.8m / 5=0.9m / 6=1.0m / 7=1.1m / 8=1.2m / 9=1.3m / 10=1.4m / 11=1.5m / 12=1.6m



SPECIAL FEATURES of S T O C K Sheet-to-Sheet LAMINATING MACHINES

Basic Laminating Machine 123:

- modular design, therefore gradually extendable at any time
- approved in production – high working reliability
- minimum maintenance requirements
- easy machine handling and operation
- easy and fast cleaning of the glue unit and the machine, minimum cleaning and maintenance costs
- no lubrication: all rollers run on double ball bearings (lifetime lubrication)
- if the rollers are worn out or damaged during production – all rollers can be reconditioned
- short set-up (make-ready) times, allows both short orders and longer runs to be completed efficiently and economically – min. waste for setting up the machine
- well proven gluing unit with discontinuously glue feeding, suitable for a thin and equal glue metering
- minimum glue application: positive affected on piece cost calculation
- better sheet flatness affected to a higher and more economical production of the converting process (like die-cutting, gluing and folding etc.) after
- glue rollers made of stainless steel and bronze, with best emergency running property – no damage at mechanical touch of both glue rollers, cleaning therefore very simple
- additional drive for the glue rollers, keeps the rollers running during breaks or machine stops

- easy cleaning for the glue-rollers, without aid by a sponge etc., only by using approx. 3 – 5 litres of water, wash-up time less than 5 minutes
- suitable for carrier sheets from 350 gsm – 7mm thickness, top sheets from 120 – 400 gsm
- automatic glue feeding system (P), consisting of a diaphragm pump 1" and a glue level control indication of glue lack: by acoustic signal
- more than 900 machine installations world-wide at very contented customers
- with special front-lays: no marks on the bottom side of the substrate sheet
- electrical machine control by SIEMENS-PLC, type S7
- electrical interlocking – missing a printed label no blank is fed
- suitable for: POP-boxes, POP-/POS-display, crossing corrugated, etc.
- machine starts with maximum speed – no acceleration time

Substrate Sheet – Suction-Belt (Hopper) Feeder 4R:

- suitable for different materials: i.e. single- (F-, E-, B-, G-flute) and double-face corrugated (F-, E-, B-, G-flute), double-double (EB-flute) up to 7 mm thickness, as well as solid board from 350 gsm upwards
- suitable for warped sheets: a special fan for pull-down operation is used to improve the suction of feeder 4R for not flat, warped sheets
- for timed operation, therefore very safe to operate
- the feeder belts are running intermittent and the sheet length is adjusted by a small terminal
- adjusting the side register by adjusting the substrate not the printed sheet: the side guides together with the complete bar taking the substrate sheets are laterally adjustable by +/- 15 mm
- suitable for feeding single face corrugated sheet – with the flutes (open side) at the bottom



Pressure Belt 5:

- sheet intake – behind the laminating machine – vertically adjustable, dependent on streaming of the mounted sheets
- upper conveyor tape adjustable to the sheet length

Printed Sheet Feeder 6:

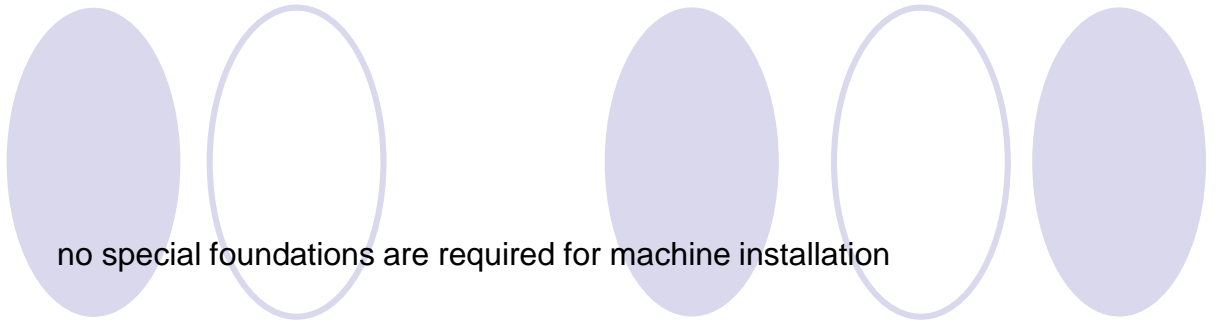
- main drive: frequency controlled (single sheet feeding), or servo drive (stream feeding)
- incl. a double sheet detector (ultrasonics) – with signal
- motorized lateral pile board adjustment: +/- 25 mm
- equipped with an independent direct drive (servo drive system) for the suction head
- standard: single sheet feeding of the printed sheets into the laminating machine
- option: stream feeding of the printed sheets into the laminating machine
- option: pneumatically controlled push-lay – operator's side – lateral registration of the printed sheets

Non-Stop Down-Stacker 7:

- with non-stop design
- deliverable with conveying system (pallet logistics) on request

Flip-Flop (Batch-Pile Turner) 8:

- with non-stop design
- to collect sheet bundles and invert them alternating – especially for warped sheets



- no special foundations are required for machine installation
- a special-machine for laminating board to board (up to 1,200 gsm from the top) is available
- a simple hand fed machine model 123 can be upgraded at any time to a fully automatic line with: suction-belt feeder 4R, pressure belt 5, printed sheet feeder 6, non-stop down-stacker 7 and batch pile turner (flip-flop) 8
- non-stop sown-stacker model 7_NR – with pallet handling or logistic system available, relief of the operators
- 4 different widths available: 1,250 mm (49"), 1,500 mm (59"), 1,650 mm (65"), 2,000 mm (80")
- max. sheet length up to 2,000 mm (80") is possible – quotation on request
- using a high performance back-edge printed sheet feeder means that a whole pallet can be fed to the feeder with a simple fork lift truck, fast pallet change, suitable for different sheet sizes and weights – suitable for speeds up to 8.000 sheets/h
- quality after-sales service and support, most spare-parts available from stock
- good price – profit ratio and good piece price cost accounting on the basis of short make-ready times, min. wasted sheets, min. glue application, max. output (production) of the machines
- good resale value