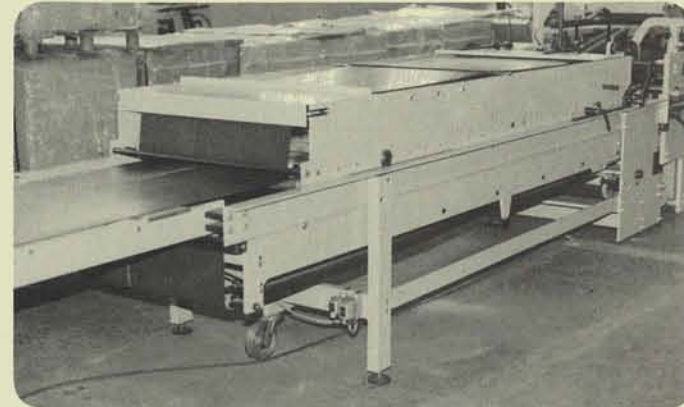


# Folding Carton Gluing Machines DIANA 40-I / 70-I / 90-I Characteristics and Advantages

More than 4500 JAGENBERG Folding Carton Gluers supplied to countries all over the world formed the basis in the late 70's for a new DIANA Folding Carton Gluer generation with the models 45-1 / 85-1 / 105-1 / 125-1. These DIANA gluers built on the modular construction principle already ushered in a new era in folding carton gluer engineering.

The three new models DIANA 40-1 / 70-1 / 90-1 now complete the universal machine programme with inexpensive, simple and efficient machines, which can handle all carton types with the exception of collapsible boxes.



## Compression and Delivery Section

Mechanically connected to the machine, set up in travel direction. 150 mm clearance. 3000 mm long compression section. The pressure applied by the bottom apron is adjustable down to zero. This prevents marking surface-sensitive cartons due to excessive pressure. Additional pressure on specific points of the carton through soft rubber belts.

## Changeovers

can be carried out in a short time. Lockbottom carton attachment can be made ready outside the machine. All features can be demonstrated in our permanent demonstration centre in Düsseldorf.

## Maintenance

Maintenance-free rollers throughout the whole machine. Only a few grease nipples. Cleaning of bottom glue unit only once a week.

Please visit the permanent demonstration center in our Düsseldorf factory.

## Optional Equipment

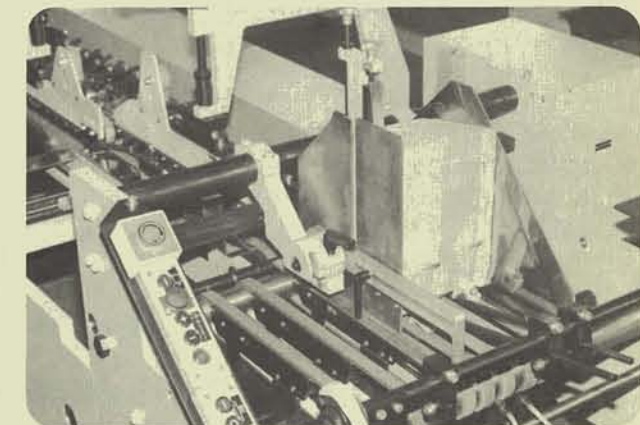
DIANA gluers can grow with market requirements. A large range of optional equipment can either be supplied with the machine or retrofitted.

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## Features of the New Series

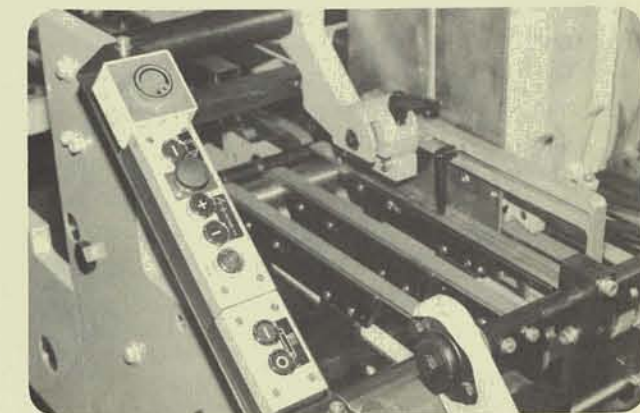
### Feeder

Easy changeover to other sizes. Feeder side walls are quickly shifted. Short extra side wall available for very small cartons. Feed belts are supported by roller bars. A central clamping arrangement for all belt guides reduces makeready times. Additional equipment (not standard on DIANA 40 / 70): fine adjustment of feeder walls through micrometer screws, vibrator with adjustable frequency for trouble-free de-leafing of blanks, electromagnetic clutch and brake for stopping feeder separately.



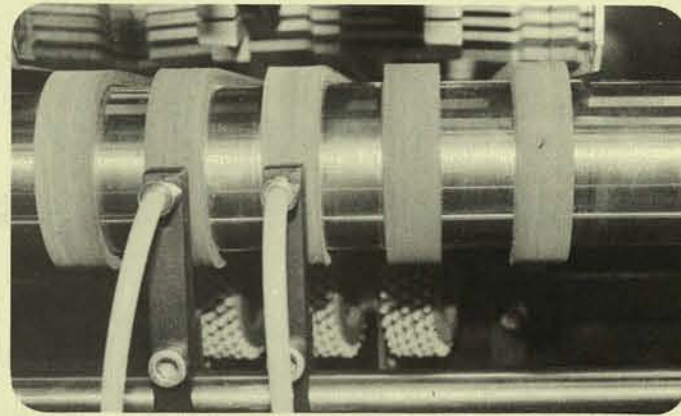
### Feeder Operation

Pushbutton control for separate starting and stopping of feeder in two locations: at the feeder itself and at the end of the folding section (not standard on DIANA 40 / 70). Potentiometer for stepless adjustment of vibrator intensity (not standard on DIANA 40 / 70). Extra foot switch stops the machine immediately if required.



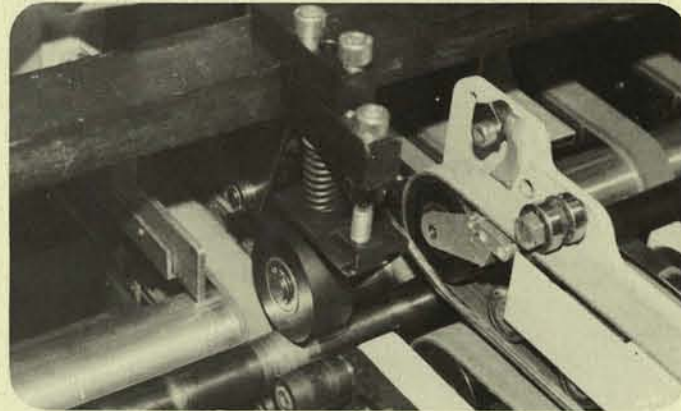
### Feed Belt Cleaning Unit

This unit is indispensable for trouble-free feeding, even blank flow and higher output. The equipment consists of three rotary brushes mounted diagonally to travel direction. The brushes are supplemented by two air jets which blow compressed air diagonally against the feed belts to remove the board dust (not standard on DIANA 40 + 70).



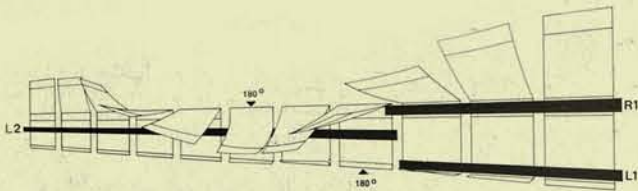
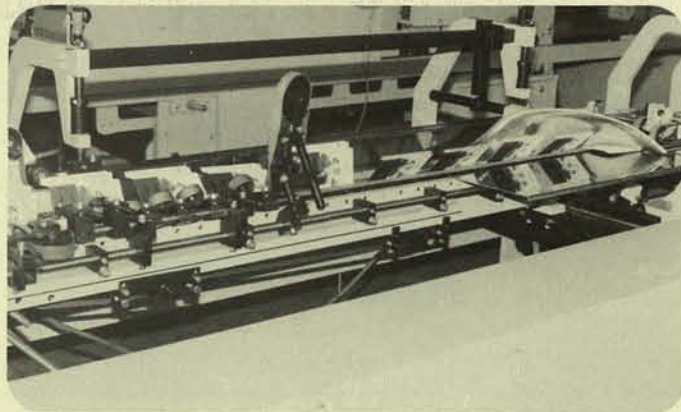
### Transfer of Blanks from Feeder to Prefolder

through laterally adjustable spring loaded feed rollers, which rotate in contact with a driven shaft at prefolder speed. Independent setting regardless of the position of the roller bar, e.g. to the right of crease line 4 on a long trailing flap forming a display lid. In this way, even the most difficult blank shapes are fed into the machine straight.



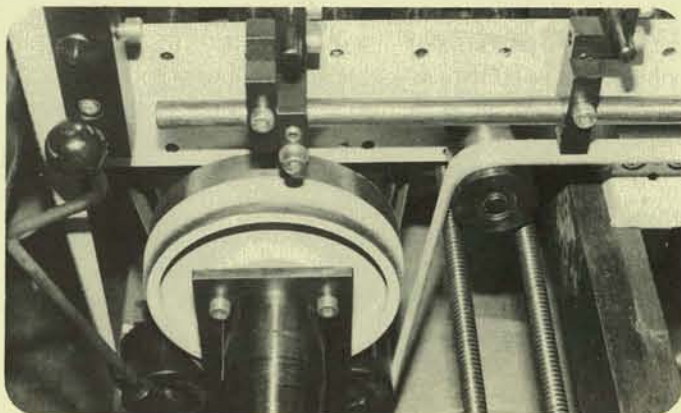
### 180° Prefolding

- a) of the glue flap: normally with a folding rail followed by an opener,
  - b) of the 3rd crease line: through a folding belt.
- The large opening plough permits high speeds without danger of damaging the blanks. Lockbottom cartons can be prefolded too, without additional equipment.



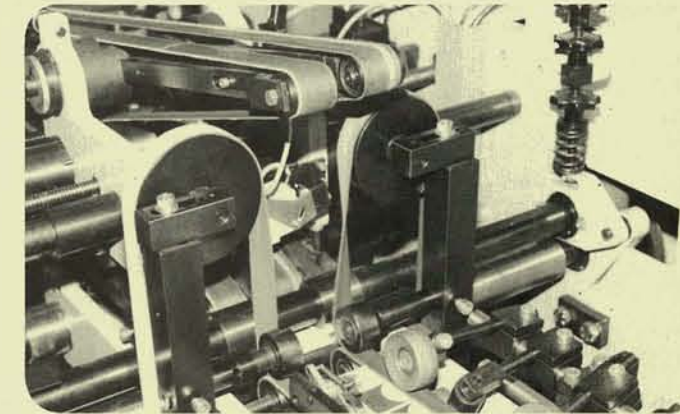
### Prefolder and Folding Section Belts

Belt change without shaft removal through the proven DIANA belt arrangement, by-passing the drive shaft over the top (no loop around the shaft). Belt speed individually adjustable. Folding belt speed can be corrected during operation. This enables the operator to influence the folding operation and obtain better results. JAGENBERG design eliminates wear and tear. All drive shafts are covered by telescoping safety springs on the operator's side.



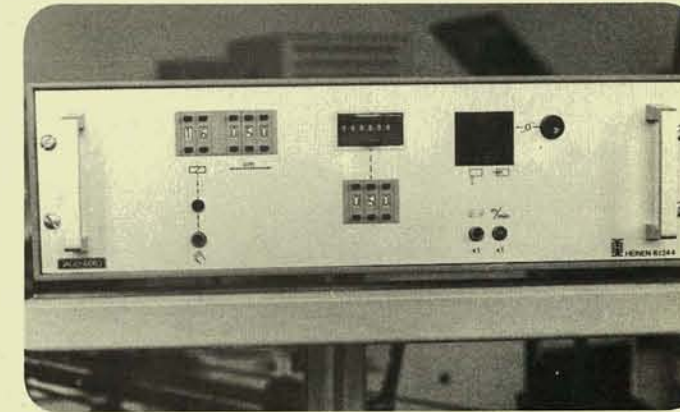
### Pressure Roller Station

This comprises two shafts mounted vertically one above the other. The upper shaft has two laterally shiftable steel rings mounted on it, which apply pressure to crease lines 2 and 4 after folding. Cartons well pressed at this point save shipping space. The shafts are spring loaded and adjustable in height and pressure.



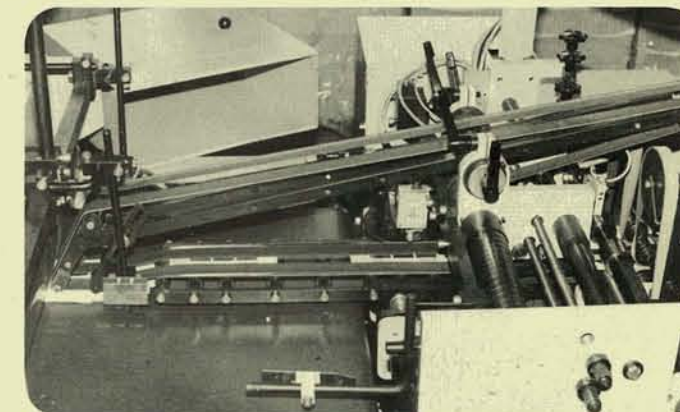
### Electronic Counter

with integrated circuits. Dustproof housing. Digital display of machine speed in m/min. and number of cartons remaining on the apron after the last kicker signal has been emitted. Totalizer. Electromagnetic kicker clearly marks lots from 1 to 999 cartons by kicking out every nth carton.



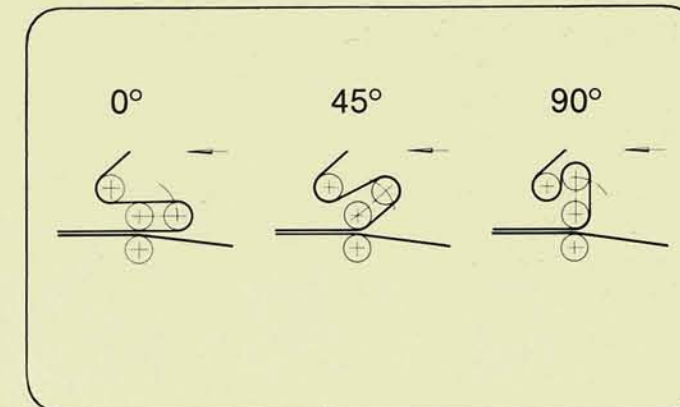
### Transfer Station (Trombone delivery)

Adjustable in all directions. Automatic retensioning during setting operation. Delivery possible from the top or from the bottom (overstacking or understacking). Speed variation through a variable speed belt drive. (Only one top and one bottom belt on the DIANA 40).



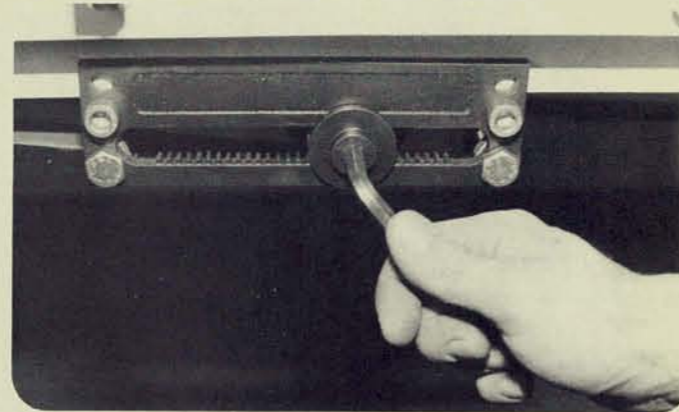
### Compression and Delivery Section – Infeed End

The operator can choose the desired infeed angle, depending on the type of carton and the production speed. The infeed gap then automatically adapts to the carton stream thickness through a spring loaded bottom roll. The small diameter of the upper apron infeed roll facilitates the shingling of small cartons.



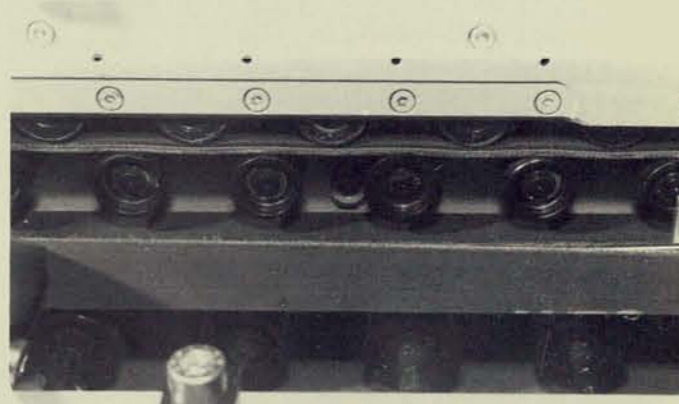
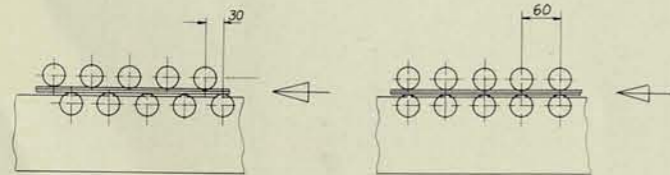
### Belt Tensioning Made Simple

by rack and pinion with self-clamping action. It is now easy to check and correct belt tension. Correct belt tension is an essential prerequisite for perfect folding. Wherever a belt reverses direction, it runs on crowned rollers.



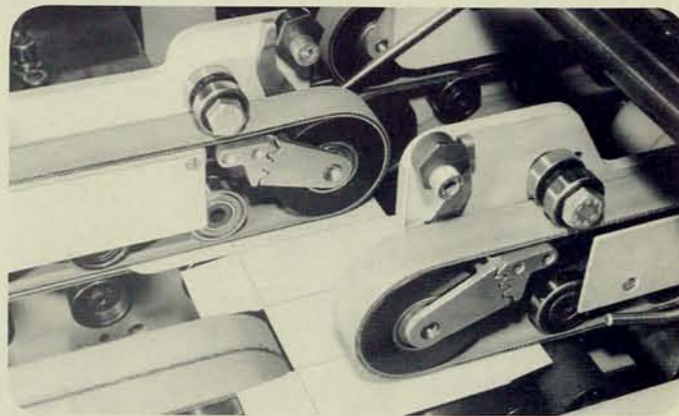
### Top and Bottom Roller Bar Adjustment

in lateral direction through lead screws for quick makeready without losing the advantage of micro-setting. Adjustment of top roller bars in running direction enables "roller on roller" or "roller between roller" operation. Doubling the supporting points ensures safer transportation of short blanks.



### End Rollers of Top Roller Bar Belts

are spring loaded and supported by small gear segments which reduce deviations in the belt tension caused by the movement of the end rollers to a minimum. Independent height adjustment of these rollers is made through eccentric bolts.



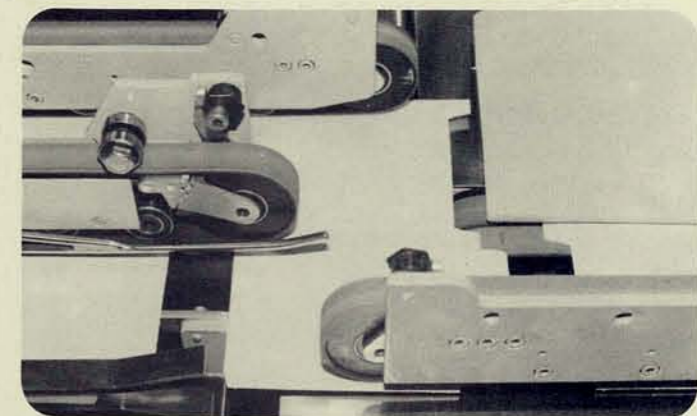
### Top Roller Bars

Each roller is individually spring loaded. Photo illustrates the proven DIANA quick action clearing between belts. The top roller bars are lifted off the bottom roller bars instantaneously through an eccentric hand lever. The clearance is sufficient to remove blanks without disarranging any settings. This feature also facilitates makeready.



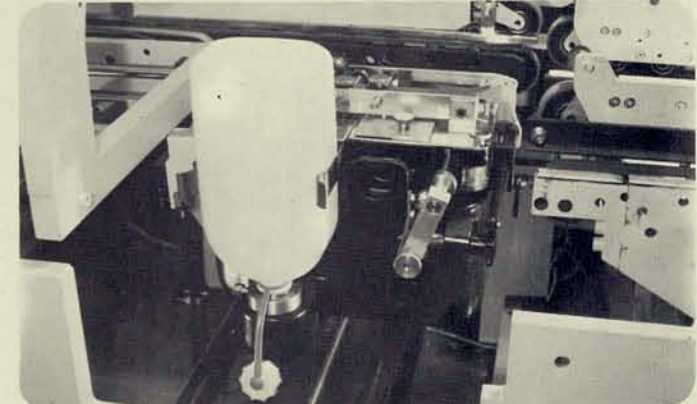
### Roller Bar Arrangement

At points of transfer from one section to the other – e.g. as shown here between prefolder and folding section – all roller bars overlap into the next section. Thus, even small blanks remain under control at all times.



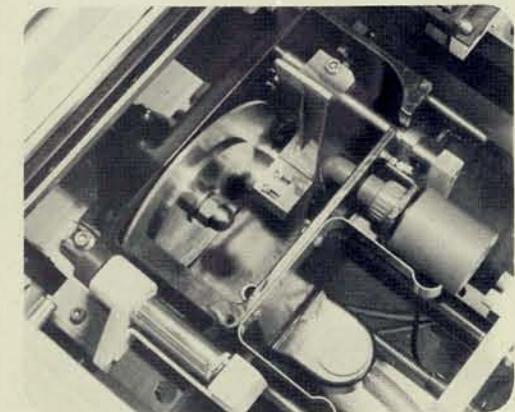
### Bottom glue pot – general view

Pot protected inside and outside against corrosion. Lateral adjustment through lead screw. By-passing the lead screw permits instantaneous removal. Flexible coupling facilitates re-fitting within seconds. Exchange of glue wheel in 2–3 minutes. Inverted bottle principle or glue refill pump (optional equipment).



### Bottom glue pot – details

Shown on the photo: knurled glue wheel of large diameter permitting a gravure type of application, micrometer screw for fine adjustment of the glue film, divided scraper, drainage stud, level switch for the automatic glue refill pump (optional equipment).



### Folding Section

The JAGENBERG left-before-right folding principle ensures that all blanks – even the shortest blanks – are firmly guided between at least two belts at all points. Skewing is therefore eliminated.

