



Delivering Value to Corrugated Box Manufacturers



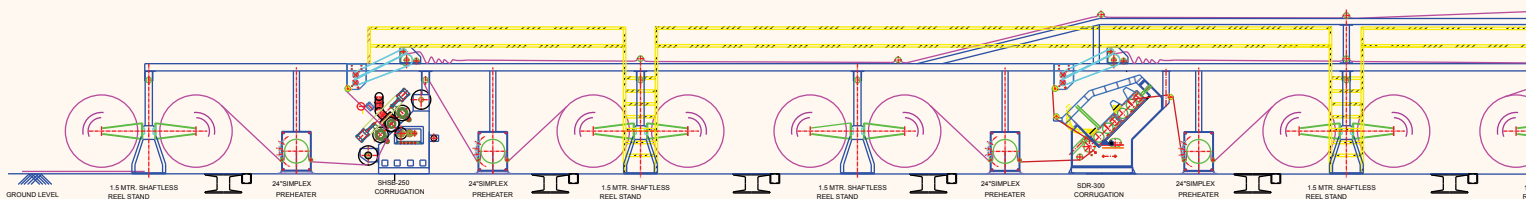
Manufacturing Unit - I

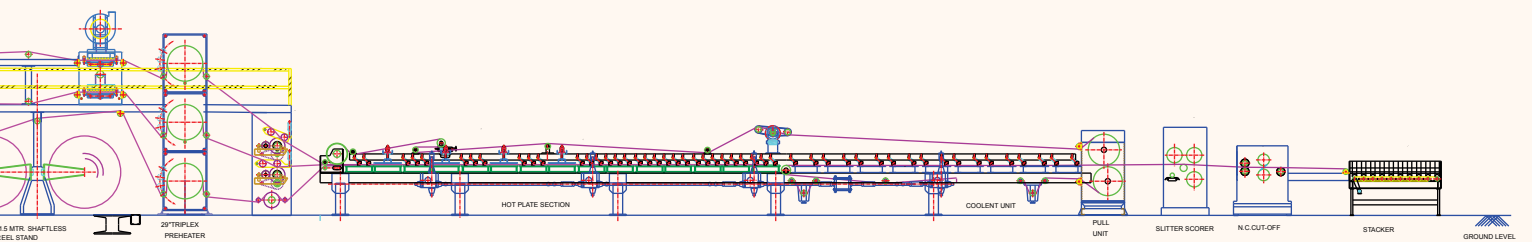




Manufacturing Unit - II







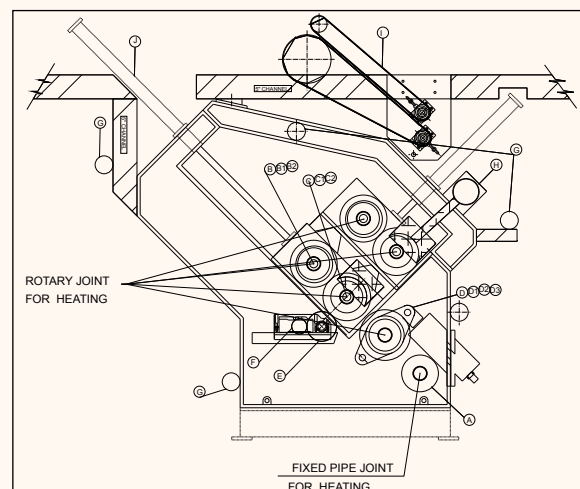
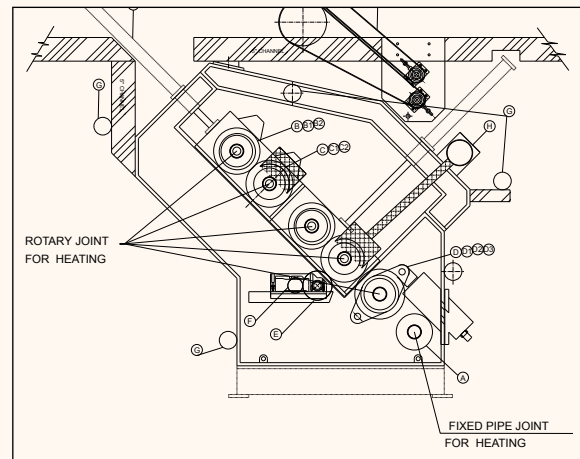


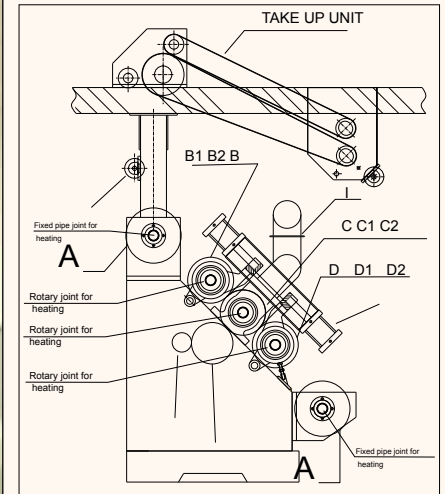
## SDR 300

### Double Profile Corrugation Machine

#### Technical Details

- Center Roll 300 mm Dia (EN-24 Material) Hard Chrome Plate.
- Top Roll 290 mm Dia (EN-24 Material) – Hard Chrome Plate.
- Pressure Roll Dia 330 mm (EN-9 Material).
- Vacuum Jacket fitted on the Profiles.
- 1 Set of Flute Rollers can be used at one time.
- Change the Flute Rollers in less than 3 minutes with Hydraulic Power Pack.
- Pre- Showers for Steam arrangement.
- Reduction Gear Box 5".
- The up and down of upper Corrugating Roll is operated mechanically, by screw system and Manual locking is provided.
- Complete arrangement for Steam or Thermal Fluid Oil heating as per requirement.
- Arrangements provided in Corrugation machine to set the taper of the Flute if there is any.
- Vacuum section Box fitted on the Center Flute Roller (Latest type) for paper suction, instead of adopters.
- Blower shall be used for suction along with suitable Motor.
- Complete Pipe Line with Clips shall be provided along with covering for the vacuum box.
- Variable Speed Drives also provided.
- Gluing Roll and Doctor Roll have been assembled with precise Micro adjusting device respectively for obtaining exact distance.
- Pre-heating Roll diameter 6" X 2 Pcs.
- Doctor Blade on Gluing Roll.
- One Set of Tool Box with Tool Set provided.





## SHSB - 250

### Single Profile Corrugation Machine

#### Technical Details

- 1 set of flute roll fitted on roller bearing. En-24 material used in flute roll. Center roll dia 298mm, top roll 300mm, pressure roll dia 330mm with variable speed electric motor, vacuum section and control panel complete.
- Pre-heater 18" dia shall be fixed before single profile corrugation machine for the bottom paper
- Pre -heater 18" dia shall be fixed behind single profile corrugation machine for fluting paper

#### Machine capability:

Max. Design speed: 100m/min.

Max. Working speed: 80m/ min.

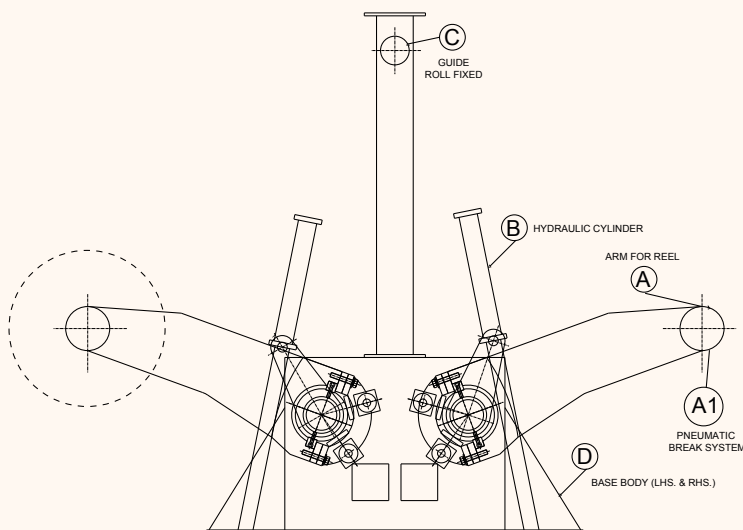
Natural working speed: 60m/min.

- Glue roll: dia 255mm made from steel. The surface has chrome plating treatment.
- Doctor roll: dia 141mm, made from steel experienced grinding, chrome plating and polishing treatment.
- Up and down action of upper corrugated roll controlled by two pneumatic cylinders and lever.
- Advance and retreat of the glue roll house is controlled by two pneumatic cylinders.
- Adjustment of glue thickness: Quantity of pasting glue and controlling glue is controlled by the clearance between glue roll and doctor roll and roll adjustment and the inter-face appear control. There are manual and automatic controls.

- Manual controlling: Press the button that controls motor to adjust the clearance, to ensure enough amount of paste.
- Complete arrangement for steam heating Or thermic fluid heating as per requirement shall be made.
- There are arrangements provided to set the taper of the flute if there is any.
- Pre-heaters fixed at the bottom 8" dia.
- Main drive with separate gear box to shift drive. Gear made of high quality alloy to forge and grind with type of dip oil to ensure low noise and long life.
- The gear box transfer the kinetic energy to the three rolls (top & center corrugated roll and pressure roll) through the universal transmission shaft. The structure ensures the performance. Easy and fast to maintain.
- Fingerless suction blower type, convenient for fluting cling corrugated roll easy to form. Vacuum section box fitted on the center flute roller (latest type) for paper suction instead of adopters.
- 'Blower' shall be used for suction along with suitable Motor.
- Complete pipe line with clips shall be provided along with gun metal covering for the vacuum box.
- Pre-showers for steam arrangement.
- One set of tool box with tool set provided.



## 1.5 Meter Twin Shaftless Hydraulic Reel Stand



### Technical Details

Can lift max. Roll dia 1500mm

Can lift min. Roll dia 500mm

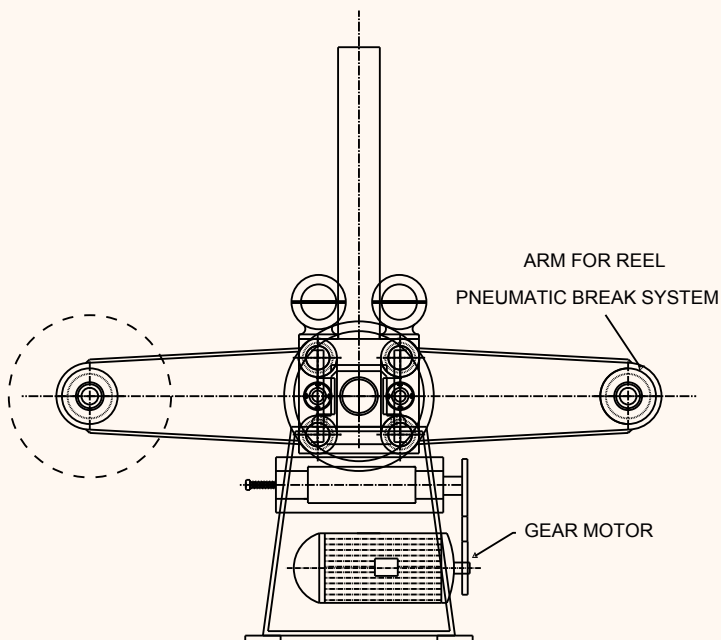
Can lift weight 3 tons.

- Gripping of the deckle by arms moved
- Left & Right movement controlled by Hydraulic Cylinder
- Up & down motion also controlled by Hydraulic Cylinder
- Taper bush provided to hold deckle for 1 mtr & 1.5 mtr
- Pneumatically operated brake.
- Power pack hydraulic system provided. Capacity of lifting & holding 3.5 Tons to 5 tons
- Complete electronic control panel & motor Provided.
- Power required 3 H.P.





## 1.5 Meter Shaftless Reel Stand

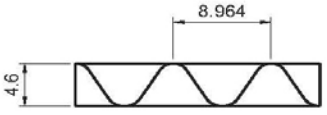


### Technical Details

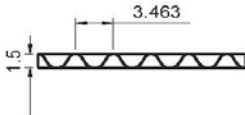
- Reel stand can lift MAX Roll Dia – 1500mm.  
Can lift min Roll Dia – 500mm.
- UP & down movement controlled by Mechanical screw system.
- Auto alignment paper setting controlled by Mechanical Screw system via control panel.
- Taper Bush provided to grip deckle 1 mtr & 1.5 mtr dia.
- Pneumatic brake with disc provided with tension controller.
- Auto brake clutch is provided to avoid any dange or accident.
- Complete control panel for the stand dange with pneumatic control provided in panel for easy operation.
- Power required 6 H.P.

# Flute Profiles

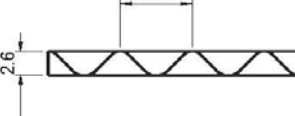
Profile	<b>A Flute</b>
Pitch	8.964mm
Height	4.6mm
No. flute	300/34±2
Diameter	
T.U.R.	1.5



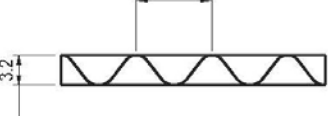
Profile	<b>E Flute</b>
Pitch	3.463mm
Height	1.5mm
No. flute	300/88±4
Diameter	
T.U.R.	1.33



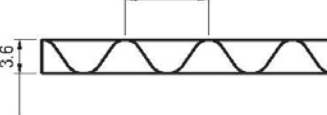
Profile	<b>B Flute</b>
Pitch	6.6mm
Height	2.6mm
No. flute	300/50±2
Diameter	
T.U.R.	1.334575



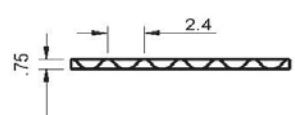
Profile	<b>BC Flute</b>
Pitch	6.927mm
Height	3.2mm
No. flute	300/44±2
Diameter	
T.U.R.	



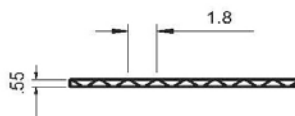
Profile	<b>C Flute</b>
Pitch	7.66mm
Height	3.6mm
No. flute	300/38±2
Diameter	
T.U.R.	1.461928



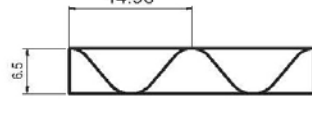
Profile	<b>F Flute</b>
Pitch	2.4mm
Height	0.75mm
No. flute	300/125±6
Diameter	
T.U.R.	1.231



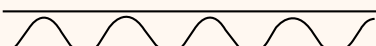
Profile	<b>G Flute</b>
Pitch	1.8 mm
Height	0.55mm
No. flute	300/167±6
Diameter	
T.U.R.	1.210

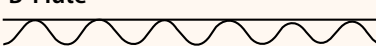


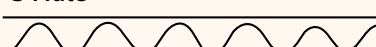
Profile	<b>D Flute</b>
Pitch	14.96mm
Height	6.5mm
No. flute	
Diameter	
T.U.R.	1.48

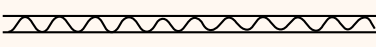


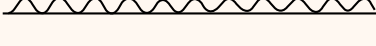
### Flute Profiles

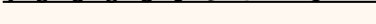
**'A' Flute**  
 4.0 - 4.8 mm

**'B' Flute**  
 2.1 - 3.0 mm

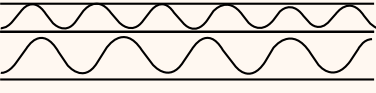
**'C' Flute**  
 3.2 - 3.9 mm

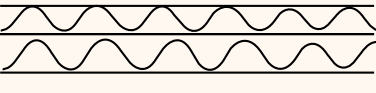
**'E' Flute**  
 1.0 - 1.8 mm

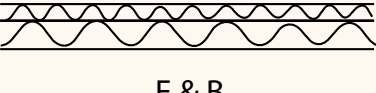
**'F' Flute**  
 0.75 mm

**'G' Flute**  
 0.55 mm

### Combination of Flutes

**A & B**  


**C & B**  


**E & B**  




When your machine is working high-speed, you don't get high profit rate of return and then you could consider the direct effect to your profit from T. U. R of your corrugating rolls.

T. U. R (Take Up Ratio) means when corrugated paper has taken shape, its ratio of medium paper to liner paper. (Take cardboard with length 300mm for example, its length of liner is 300mm but medium paper is 450mm after extended, then its T.U.R is 1.5 by 300 divide 450)

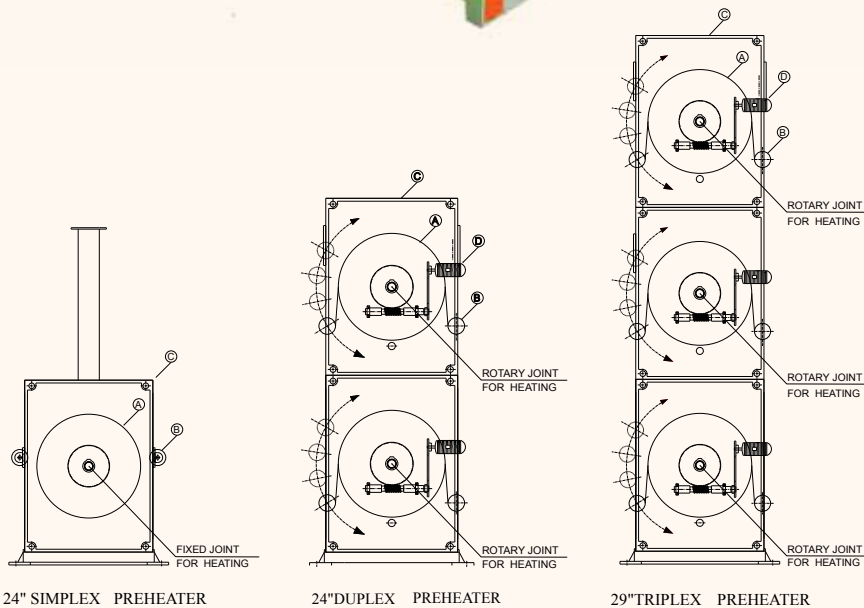
Under the same condition of corrugated paper taken shape, if you could choose corrugating rolls with T.U.R lower 3% than what you used now.

Supposing that your corrugating rolls run 12000 meter per day, then you could save 3600 meter medium paper by calculation method of 12000 meter multiply 3%. And accordingly you could save 108000 meter every month by 3600 meter multiply 30 days.

The wider your machine, the bigger you lose. For instance, if your machine with width 2.5 meter, 150g medium paper, and using medium paper of 2100mm wide (appr. 83 H ), then you will lose 1.134 ton per day. On the analogy of this, if you have machine of 2.5 meter wide by using medium paper of 1500mm wide (appr. 59 H ), then you will lose 0.81 ton per day.

So, the new competitive T.U.R of corrugating roll will help you get return of cost within two months and the remaining all is profit.

# Pre Heaters



## Technical Details

### Wrap Round

- Wrap round Pre-heater 24" Dia shall be fixed before Single profile corrugation machine for the bottom paper
- Wrap round Pre -heater 24" Dia shall be fixed behind Single profile corrugation machine for fluting paper

### Duplex Pre-Heater

- Pre heating Roll dia 29" X 3 Pcs.
- Exact Pre-heating efficiency can be obtained by adjusting pre heating area.
- Fixed Pinch Roll Diameter 4.5" Dia.
- Provided with Arms to the Guide Rollers.

### Triplex Pre-Heater

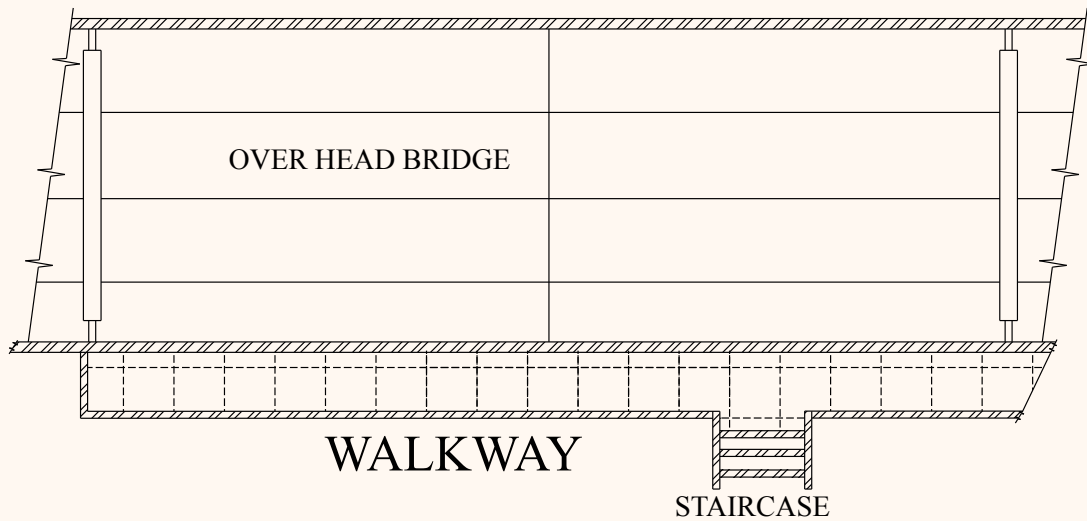
- Used for heating liner / medium (corrugated paper), and to control its temperature and humidity.

### Capability:

- Max paper width: 1600MM, 1800MM /2.2mtr etc.
- Heat cylinder diameter: Dia 29".
- Two Ride rolls, one is fixed, one is moving with the Cylinder circumgyrate. Both rolls help to adjust the heating area.
- Heating area electrical adjustment through gear motor moving, it also can keep the heating temperature enough for high speed work.
- Pre heating Roll dia 29" X 3 Pcs.
- Exact Pre-heating efficiency can be obtained by adjusting pre heating area.
- Fixed Pinch Roll Diameter 4.5" Dia.
- Provided with Arms to the Guide Rollers.



## Overhead Bridge Conveyor

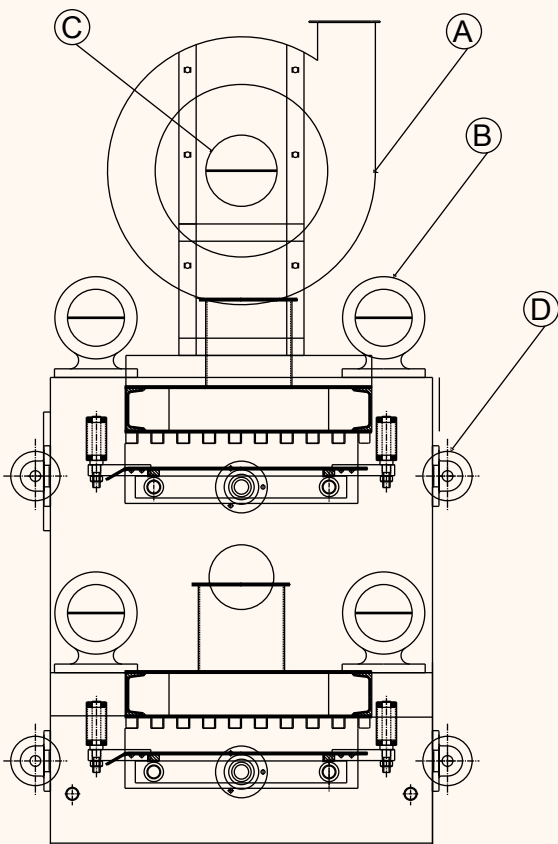


### Technical Details

- Overhead bridge along with auto take-up unit. In this system the production coming from the corrugating machine is lifted automatically on the over head bridge without an man handling.
- All bridge structures use channel, angle and steel plate etc.
- Two sets take-up conveyor installed upon each single facer.
- Two layers of level-type conveyor to guide single face from single facer to triplex pre-heater.
- Paper width right and left motion by Auto adjustment.
- To be supplied with one set of rail and one / two sets of staircase
- This system helps in storing the material on the overhead bridge, therefore the is no stoppage in the plant when the reels are changed.
- As there is no human handling the liner does not get damaged.



## Web Alignment Unit

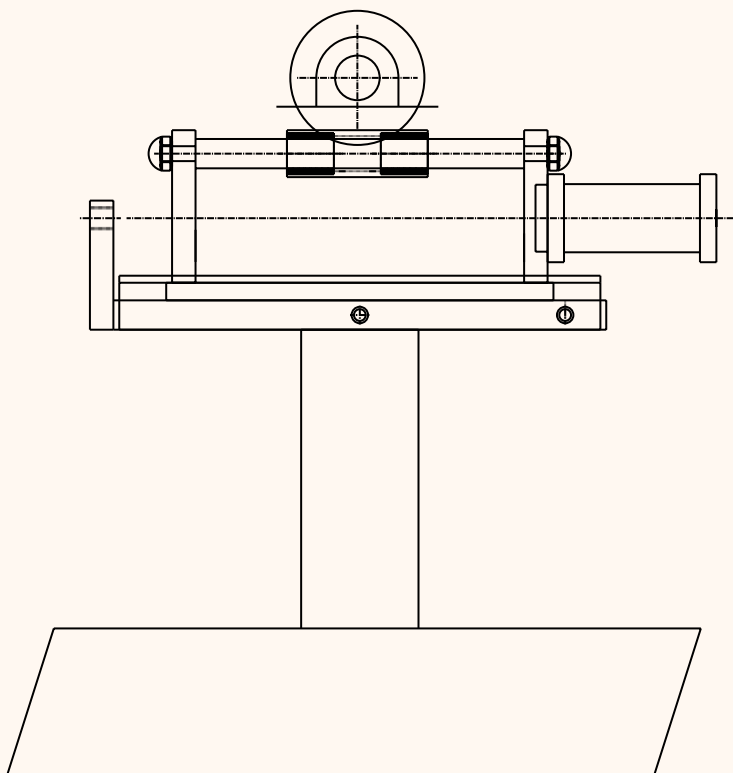


### Technical Details

- There will be 2 web alignment units.
- Transducer control, ensures suction quantity, tension reliability and stability.
- Input width of paper into the stand of the glue machine direct, automatic finish, upper, middle and down layer reach the target value at the same time. High the precision within 1mm, improves pass age of paper to step up average speed.
- Automatic adjustment the position of corrugated paper reduces waste paper ration of the manual operation.
- Both the lines from the first corrugator and 2nd corrugator are aligned before entry to the Duplex pre-heater.
- The left and right movement of the aligning device is electronically controlled.
- It can be adjusted for any deckle size.



## Felt Alignment Unit - (Pneumatically Auto Controlled)



### Technical Details

- The System is fixed on the felt unit "over the hot plates" to control the alignment of felt.
- It is adapted with a Pneumatic S.S. plate as guide to control the Left & right movement of felt.
- This system is provided to enhance the life of the felt.
- With this system we can increase the speed of plant as the system assures to keep the felt aligned at any speed.
- Provided with heavy duty guide roller & auto adjustable bearings.
- This system is used for both 3 ply & 5 ply plants.

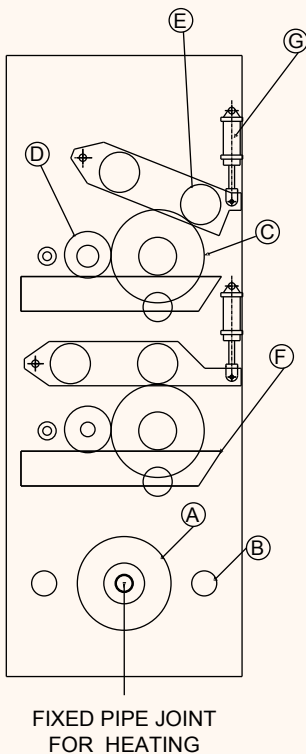
# Duplex Pasting Unit



**Standard Model  
With Rollers**



**Latest Model  
With Shoes**



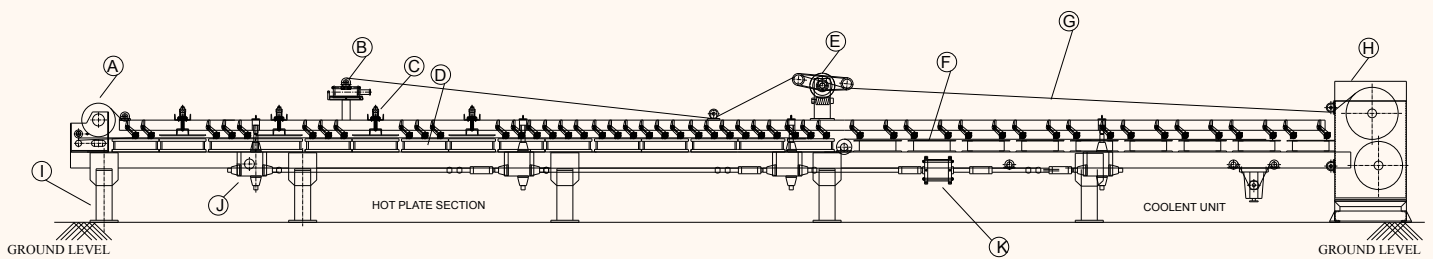
## Technical Details

- Also known as no crush bar.
- Pneumatic & mechanically controlled, both options available.
- Used for pasting glue on top of single-side corrugated paper.
- Machine Type: Used for five layer corrugators line.
- Drive synchronized with hot plate section to change system.
- Gluing roll dia. 12.5" grinded centrally balanced after mesh engraved.
- Gluing roll and glue adjusting roll are assembled precisely with micro adjusting device respectively for obtaining exact distance.
- 5. 5 trays are fixed with overflow valves on both the glue units.
- Max width: 2.2mtr.
- Machine speed: Synchronized with Plant via encoder system.
- Max working speed: Synchronized with Plant.
- Two glue rolls as per our Design.
- Made from steel, the surface has chrome plating treatment.
- Two Doctor rolls.





## Hot Plate Section

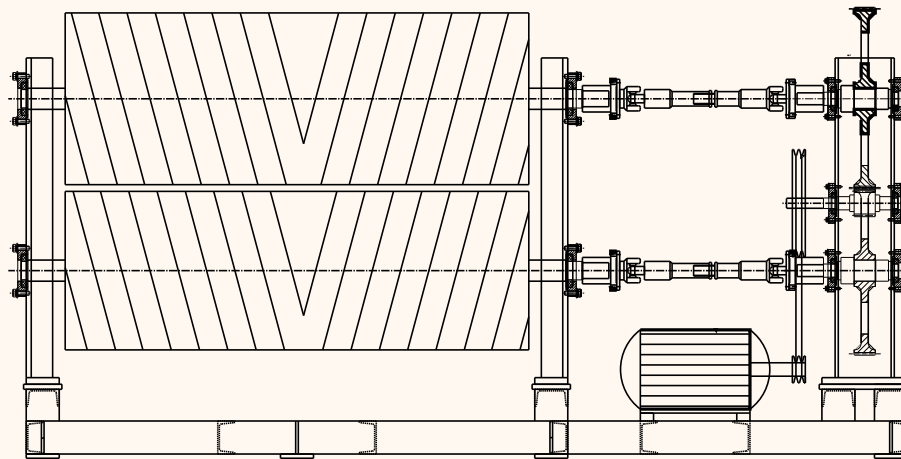


### Technical Details

- 9 for 3 ply & 15 for 5 ply Hot Plates are provided for the plant.
- Each hot plate has 3 weight rolls.
- These hot plates shall be fixed on the main frame with channel.
- Designing of the same provides max. heat transfer on the top surface.
- Increases the speed and quality of the board.
- Corrugated paper enter into hot plates and molding after pasted glue, and forms into board after cooling.
- Hotplate: Made from steel Special Boiler Plate / designed for Steam OR Thermic fluid
- The surface has been ground and polished, and that ensure uniform heated temperature.
- Passed the Nation Pressure Vessel Test.
- The Hot Plates are Fixed on heavy duty channel frame, which are ground and treated. The channel frame is manufactured with heavy duty Baker stands.
- With right and left flexible automatic adjusting system of the up and down canvas belt, the stability of canvas belt in working is maintained.
- Belt tightening system is controlled via gear.
- The pneumatic pressure system operates the hot plate up and down - with automatic control.
- Hot plates steam heating have four groups separate supply steam and drain off water, and later two groups are cut off steam by the temperature controlling valve, and adjust the surface temperature according to the humidity of each season, to ensure the paper quality.
- With one canvas belt around regulator, use the Auto felt Alignment unit.
- Convenient to operate.



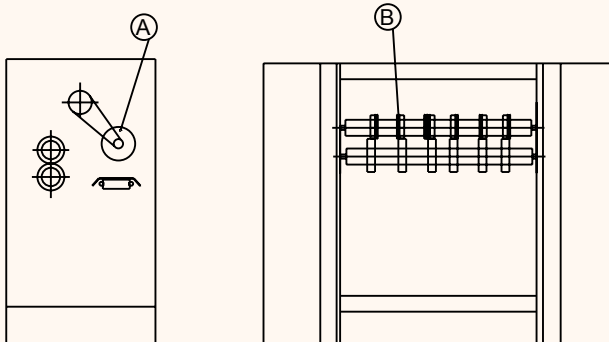
## Pull Unit



- The diameter of the upper roll is 600mm, the down roll is 650mm. Covered with wear-resistant, rubber the lines.
- The gear is made from high quality alloy steel, and the surface is heated and ground. And it is high precision, high strength, low noise, big passing square. Convenient for servicing and maintaining.
- Same dia roller are used for 3 ply & 5 ply
- Transmission shafts are provide to drive the roller from the gear box to avoid vibrations.
- This system can active speed upt 120 mtr.



## N. C. Slitter Scorer

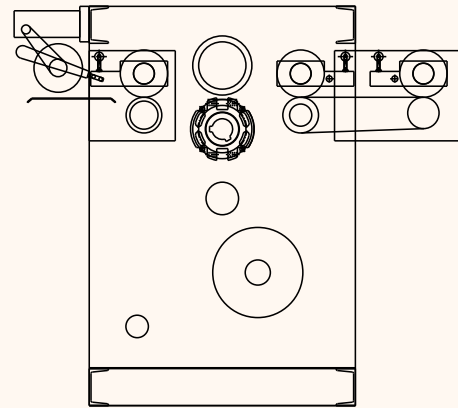
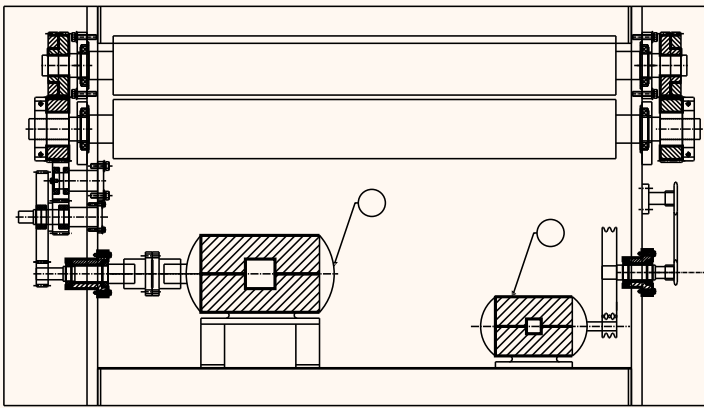


- This machine is equipped for product line with speed above 100M/min.
- Change order is fast, and designed for slitting and cutting board for the carton product line. When you operate, don't overstep the designing limit. The electromagnetism valve of pneumatic cylinder control has high speed lines.

- Pneumatic cylinder: Dia 63 ST150-5 / Five (by knives)
- Pneumatic cylinder: Dia 63\*ST100-16 / Sixteen (by knives)
- The imported ball bearing screw controls the blade and the anvil, the left and right scorers. It can be manual or automatic control. The drive motor is reducer motor. Thin blade (1.2MM) slitter system.
- With anvil for cutting, the invasion is trim and the waste will be only 5mm. And each blade with Automatic sharpening equipment, both oil and air for cooling blade ensure the cutting precision and increases life of the blade
- With high quality tungsten steel blade, the blade can cut paper within 5-8 mm meters, and with system and 10 inch color inter-face of Delta.
- For special order within the min score width is 50mm, only adopt the 8+8 score groups.
- 7.5 H.P Motor drive with Encoder for auto speed adjustment is provided.



## N.C. Cut Off Machine



### Machine Description:

- This machine has special structure, with high precision, high rigidity grinding gear, high precision knife set. High speed cut placid, low noise, and drive part, use AC serve motor, Computer to control system, Convenient to operate.

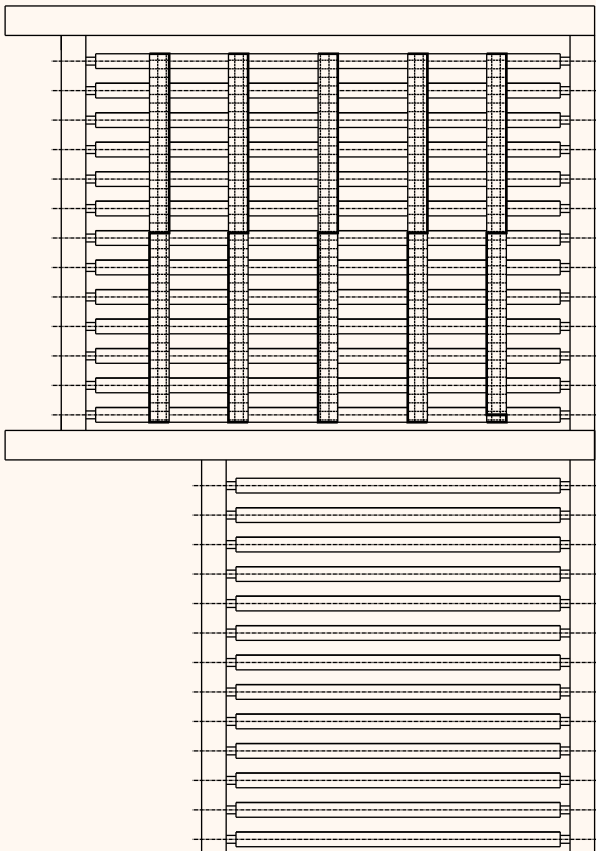
### Capability:

- Cutting width: 1.4 to 2.5mtr.
- Mechanical structure, Designed for reliability.
- Main drive: AC serve motor is from West Europe.
- The material of drive gear: High quality alloy steel, with machining and grinding treatment.
- The machine speed decided by the main motor power, Main speed is 120M/min, Max speed is 150M/min.
- Cutter machine 2 Sets. (Double knives type).

- Accuracy:  $\pm 2$  mm.
- Cutting range: Min. 20" to Max. 100". Can be further adjusted.
- Special adjustment structure, convenient to micro-adjust knives.
- Cutting precision:  $\pm 1$ mm.
- Computer controlling reduces consumption of electricity of common cutter. Saves energy up to 70%.
- The system has automatic check function, and can prevent equipment being mishandled.
- High speed, High precision High stability.
- With separate oil pump and filter with two groups of copper tubes to supply oil, lubricate and refrigerate distribute to every gear wheel.
- And set the protector of in-pressure. If no oil pressure, knives stop to- avoid gear of the cutter mangled.



## Automatic Stacker



- Stacking of 3 /5 ply board after cut-off.
- Auto shifting with stock counting provided.
- Auto shifting helps easy stacking over pallet and avoid damage to board.
- Easy to handle finished boards.
- 2 H.P. gear motor along with long belt fixed.
- Pneumatic Cylinder provided with sheet counter for auto stacking & shifting.

# Complete Customised Solutions to Box Makers



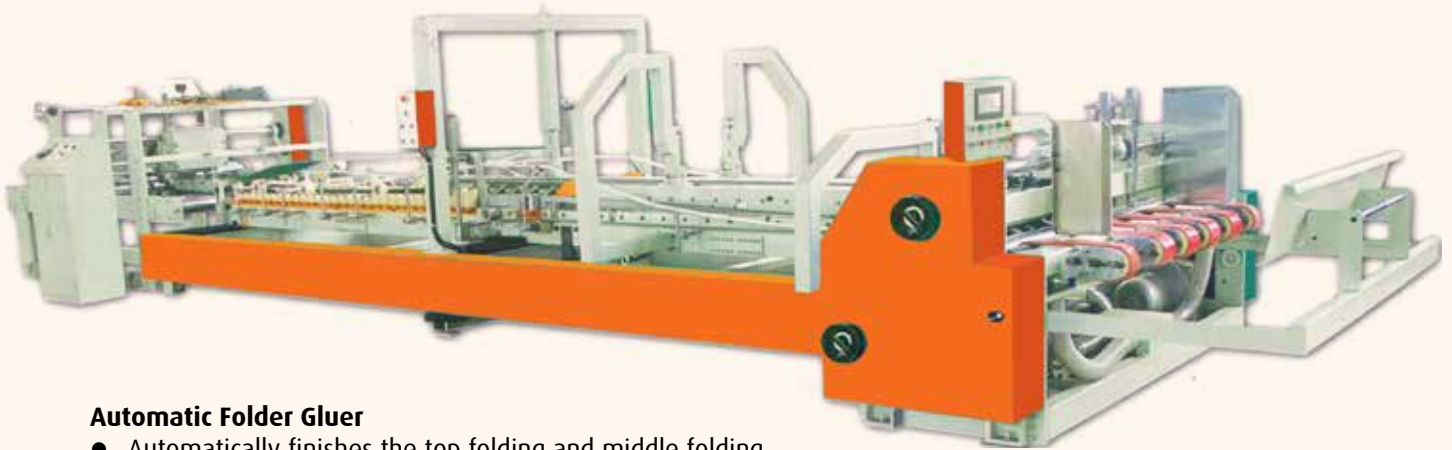
## Fully Automatic Printing, Slotting & Die Cutting Machine with Lead Edge Feeder

- Computerised order storing and regulation, fast order changing, convenient operation.
- All the driving axles and rollers made of good quality steel, high precision and dynamic equilibrium correction, hard chromium plating with surface grinding.
- Driving part of the whole machine adopt key-free linking ring to remove the linking space. Suitable for long-term high speed printing.
- Whole machine adopts spray lubrication.
- Speed upto 7000 sheet per hour.



## Two Colour Printing Machine with Chain Feeder

- Combine integrated printing and slotting of the corrugated cardboard.
- Stable quality. Hand-swing feeding way, good adaptability, overcomes the defects of the paperboard and the irregular phenomenon.
- Ensures precision of chromatic printing.
- Gears of the whole machine are of superior quality steel, treated heat treatment and ground.
- Oil pump of the gears adopts spray circulated lubrication.
- Speed 2500 per hour.



#### **Automatic Folder Gluer**

- Automatically finishes the top folding and middle folding.
- Simultaneously finishes the glue belt stick of the upper and down part.
- Saves labour and time.
- Can be used for different sizes of carton. Quick and convenient to adjust.
- Easy to operate and easy to maintain.
- Automatically amends the carton right-angle degree. Rectifies validity in 180 degree, Rectifies scissors type and tail of fish alike.
- Speed upto 7000 sheet per hour.



#### **Semi Auto Stitcher**

- An indispensable machine for carton making.
- Hi-tech, high-speed and high efficiency.
- Saves labour and material resources.



## Team Sun-Up

Cheerful and loyal, competent and committed - that's what distinguishes the Team Sun-Up.

It is this team that makes us proud of our reliability in delivering what we promise.







As India's most trusted name for In-line Automatic Corrugated Plants, Sun-Up has etched for itself a unique position in the industry.

With over 200 Automatic Plants installed all over India & abroad, we have built an enviable trust and confidence among corrugated box manufacturers in India and abroad by virtue of uncompromising quality, innovation and ability to offer plants at competitive prices.

Our commitment to customers stands unflinched and has moved us up to the Next Level of Excellence.

Understanding the technical needs and problems of our customers and resolving them with innovation and ingenuity is the hallmark of Sun-up.

Our Manufacturing Units are equipped with latest mother machinery to ensure precision and performance of every product that bears the name of Sun-up.



**Awards and Honours Galore**



## **World-wide Presence**

Our automatic plants are successfully running at many locations across India and are exported to various countries. A testimony to the international standards of plants, built by Sun-Up.

**India's most Trusted Name in the manufacture of  
Automatic Board Plants with record number of plants  
installed in India & Abroad**



## **Contacts**

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**Raunak S. Bhurjee, CEO**

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