

WORLDWIDE INSTALLATION



WOVENS

TECHNOLOGY AT ITS BEST



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COMPANY PROFILE

Innovative engineering (Innovative engineering) is a customer-centric approach that enables Yamuna Machine Works to truly enrich and empower its customers in India and abroad with cutting-edge solutions. This unique brand of smart engineering had helped Yamuna build business and relationships on the very foundation of customer satisfaction. No wonder, Yamuna has carved a special niche for itself among the leading manufacturers for textile processing, finishing and allied industries.

DESIGN. DEVELOP. DELIVER

At Yamuna, we design, develop and deliver an extraordinary line-up of state-of-the-art textile machinery including Hot Air Stenters, Denim Finishing Range, Hydraulic Jiggers, Coating Lines, Singeing Machines, Polymerisers, Thermobonding Lines, Dye Pedders, Drying Range, Shrinking Range, Rope Scouring, Washing Range and Dipping Lines-all manufactured to global standards of excellence.

TECHNOLOGY THAT'S TESTED AND TRUSTED FOR 25+ YEARS

There's trust in every thread and our customers count on it! Some of the biggest brands in fashion fabrics, furnishing and industrial textiles emerge from the womb of Yamuna Machine Works, displaying in full glory their quality and character-be it the soft n smooth luxurious feel of chiffon, the angry ruggedness of denim, the rich texture of the carpet, the durability of the corduroy or the heavy-duty outdoor spirit of a canvas tent. With 25+ years of experience, Yamuna has developed a high level of sensibility to the special needs of customers and provides them with the right machine, at the right time and of course, the right pricing!

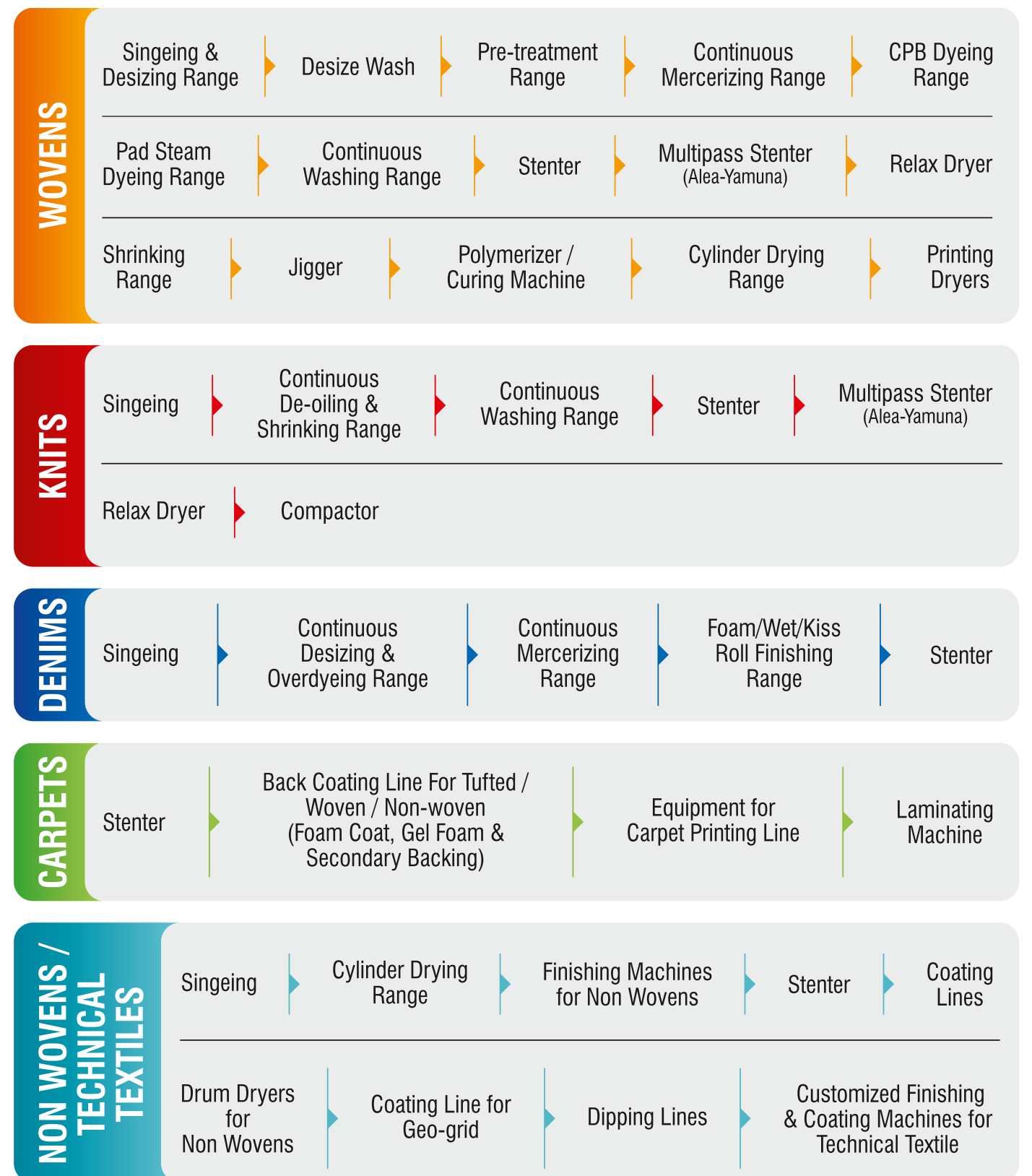
STATE-OF-THE-ART, STRAIGHT-FROM-THE-HEART

Yamuna's sprawling 10,000 sq mtr. modernised plant is located in the vibrant and energetic industrial town of Vapi (South Gujarat), just 170 km from Mumbai – the financial capital of India. But there's more to textile machinery than just mechanical, electrical and electronic components. The company has dynamic Design and R&D Team which is setting new benchmarks thanks to its inspired efforts to raise the bar of excellence.

Yamuna has its HO in Mumbai and a proactive sales and after-sales service network all over India. They are the real nuts and bolts who build the last mile bonding with our customers.



PRODUCT RANGE



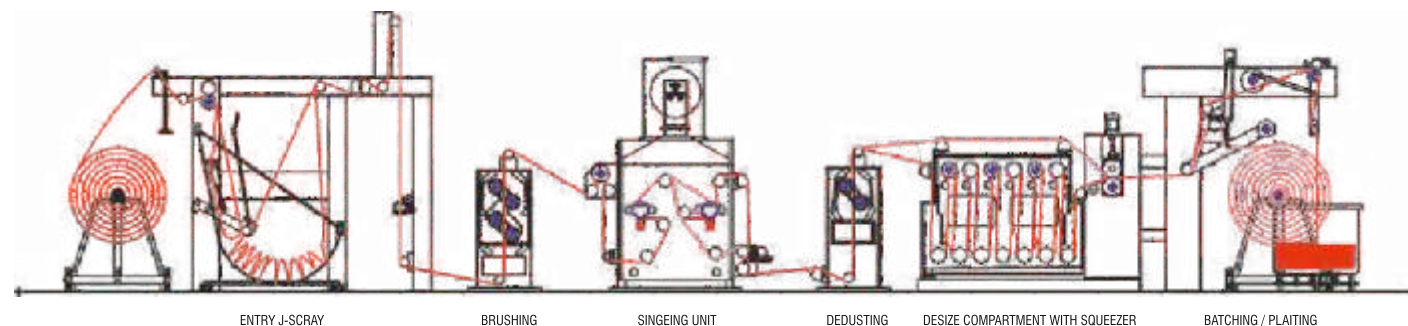
SINGEING & DESIZING RANGE

■ SINGEING MACHINE CONCEPT

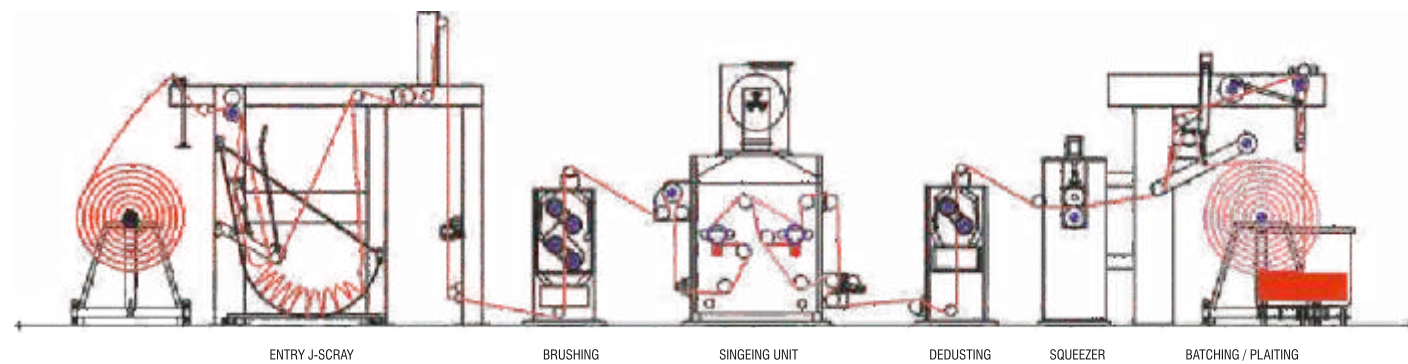
Singeing improves the wear properties of textile by the REMOVAL OF PROTRUDING FIBRE ENDS. Importance of singeing machine is well defined as it is the first step in the processing of the grey fabric. Proper quality of singeing ensures and dictates the results of subsequent steps in wet processing.

■ OPTION FOR SINGEING MACHINE

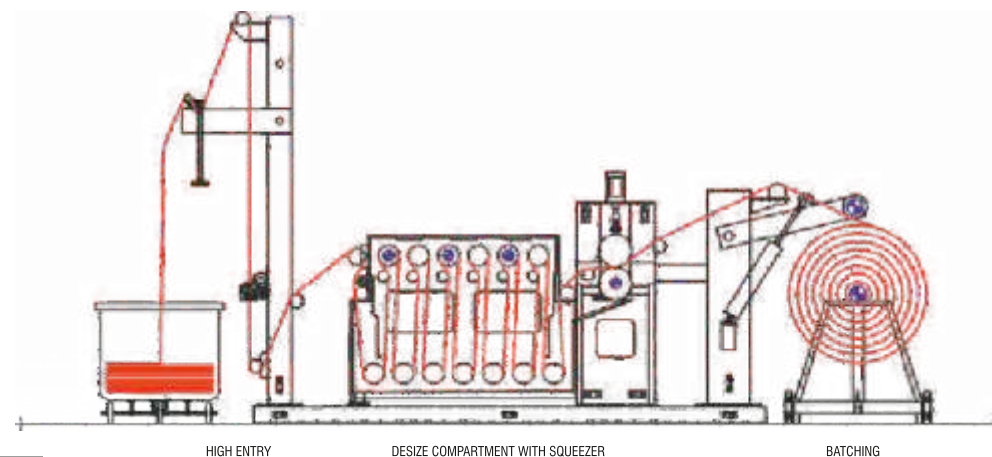
- (1) Singeing Head from **BEJIMAC**, Belgium and entry, brushing, impregnation and batching from **YAMUNA**, India.
- (2) Burners, gas train and controllers from **BEJIMAC**, Belgium and machine manufactured by **YAMUNA** in India.



SINGEING WITH DESIZE MACHINE



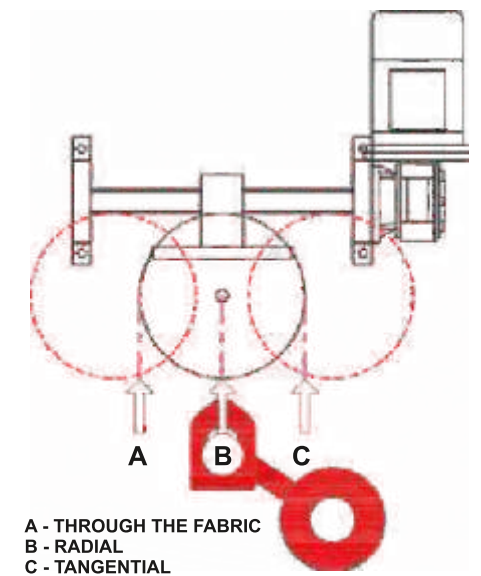
SINGEING MACHINE



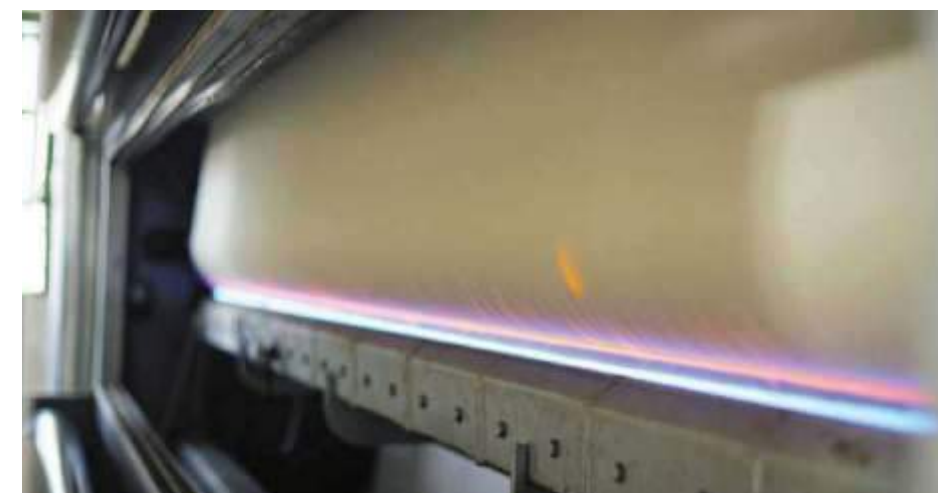
BATCH DESIZING PROCESS

FEATURES

- Closed type "CARBOMATIC" Burners made up of CI with SS mouth.
- Long life of Burners.
- Maximum temperature up to 1300 degree centigrade
- Auto flame adjustment to avoid excess wastage of gas flame.
- Water cooled with thermostatic arrangement to avoid any overheating or condensation.
- Modulating control of the gas & air to maintain the require ratio.
- Individual driven BRUSHING & BEATING UNIT with dust collector bags. Allows to give better SINGEING EFFECT.
- S. S. make DESIZING with continuous circulation tank.
- Even squeezing padder after DESIZING tank with combination of specially rubber coated rollers.
- Hydraulic TENSIONLESS batching unit.



A - THROUGH THE FABRIC
B - RADIAL
C - TANGENTIAL

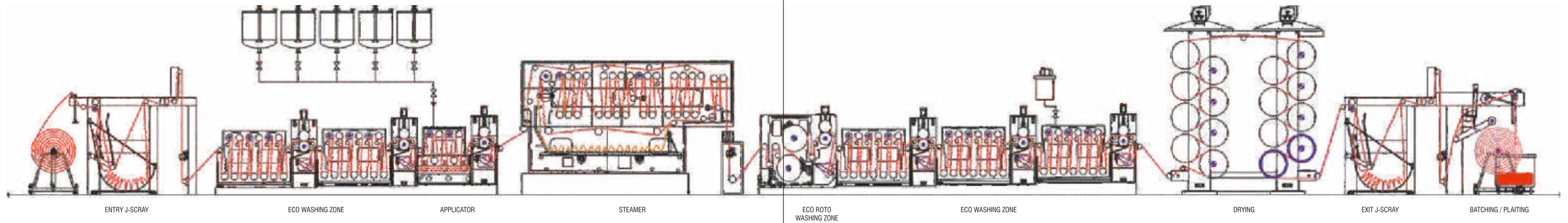


CONTINUOUS PRE-TREATMENT RANGE

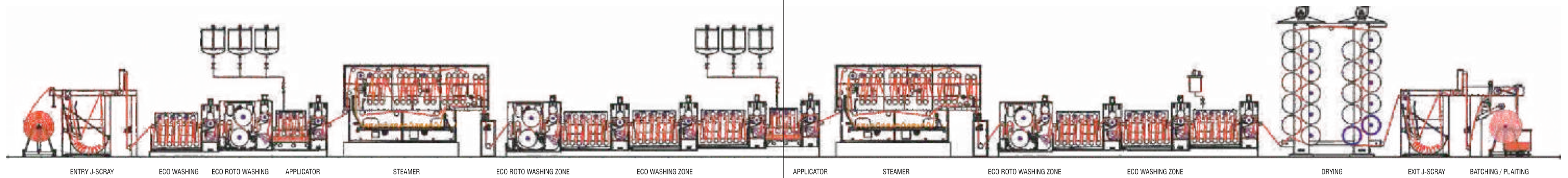


FEATURES OF CONTINUOUS PRE TREATMENT RANGE

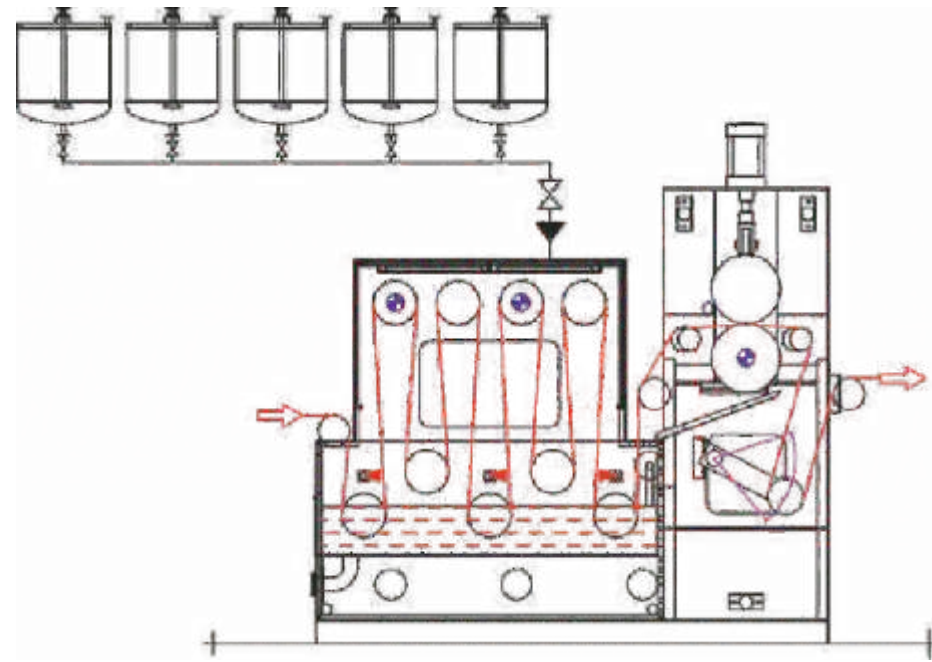
- The aim of bleaching is to remove any unwanted colour from the fibres and to bring whiteness to fabric thereby it improves the absorbency of the material for dyeing and printing
- In continues bleaching range it combines the pre-treatment processes of textiles like desizing, scouring and bleaching in this machine itself
- The three Processes involved in Continuous Bleaching Range machine are:
 1. Desize Wash (To remove starch content from fabric)
 2. Scouring (To remove the impurities present in fabric & to improve absorbency)
 3. Bleaching (To bring whiteness to the fabric.)



SINGLE STAGE BLEACHING RANGE



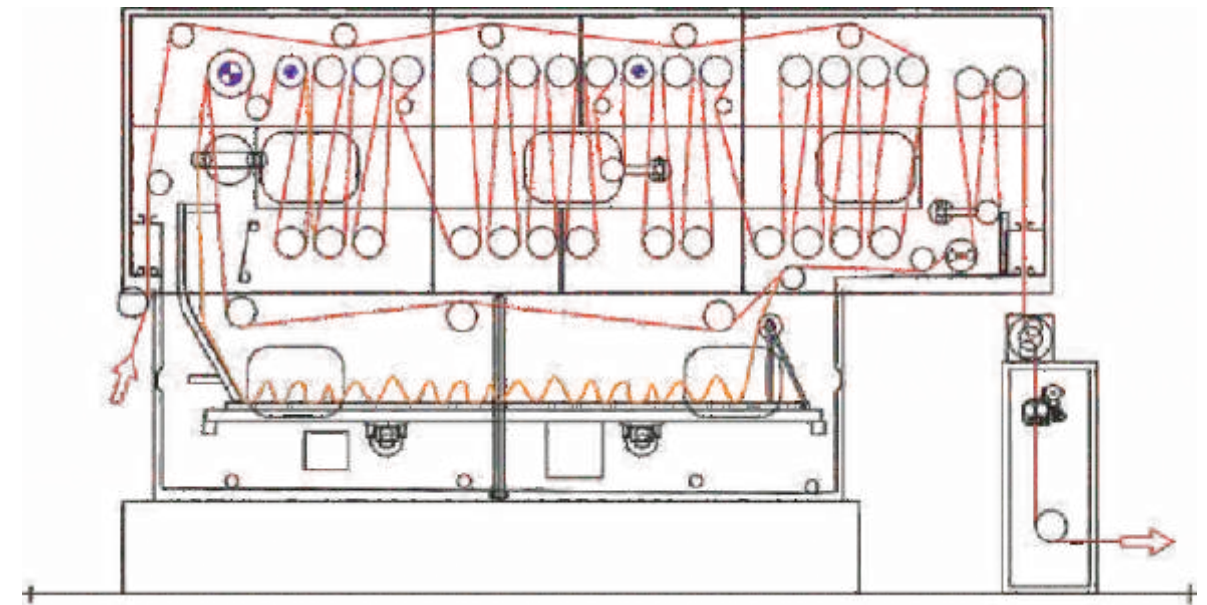
TWO STAGE BLEACHING RANGE



APPLICATOR

APPLICATOR

- High liquor pick up – ensure maximum chemical on fabric related to fabric quality and absorbency
- Unique applicator design assists high liquor exchange and penetration of chemicals on fabric substrate
- Three special dipping troughs for even application, better scour and bleach results even for tightly woven or high thread count fabrics
- Rotary filter provided for adequate circulation and exchange and filter the lint and dirt in system
- Even bleaching whiteness results and assists good absorbency fabric

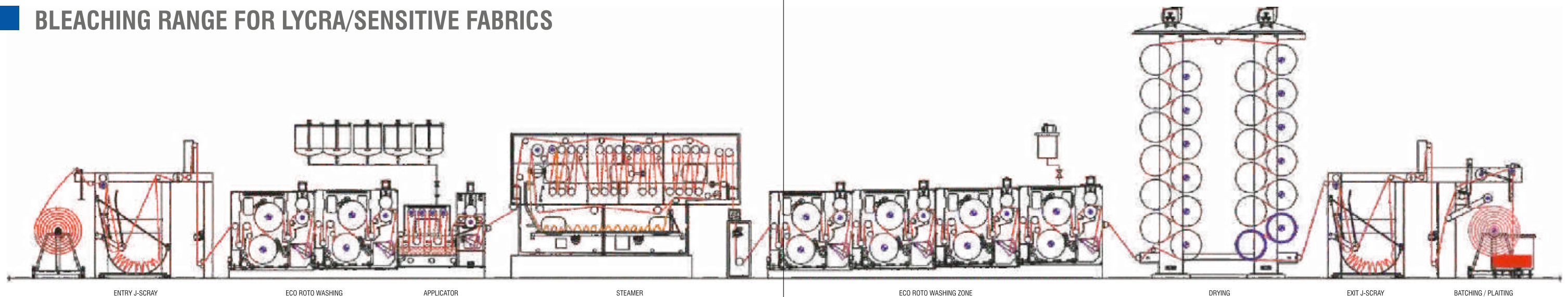


STEAMER

STEAMER

- Steam lock at inlet
- Steamer made in S.S. 316 L
- Rollers of 193 mm diameter for crease free run
- Sump at bottom – for constant saturated steam at all times in steamer
- Customised steamer – on parameters of production and fabric quality
- Saturated steam and conveyor ensure no lay / dry marks or crease marks on fabric
- Flexibility in steamer to run or by pass conveyor or tight strand
- Temperature controller helps maintain temperature of 98 – 102 degrees centigrade in steamer
- Roof heating avoids condensation on fabric
- Low tension during fabric run due to perfect sync of top roller drives and compensator

BLEACHING RANGE FOR LYCRA/SENSITIVE FABRICS



ENTRY J-SCRAY

ECO ROTO WASHING

APPLICATOR

STEAMER

ECO ROTO WASHING ZONE

DRYING

EXIT J-SCRAY

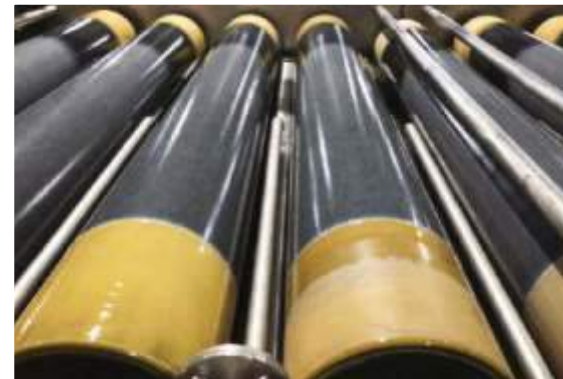
BATCHING / PLAITING

CONTINUOUS MERCERIZING RANGE



MERCERIZING PROCESS

Mercerization is a process applied to cellulosic fibers - typically cotton (or cotton-covered thread with a polyester core) but hemp and linen can be mercerized also - to increase luster. It is done after weaving (in the case of fabrics) or spinning (for yarns or threads).

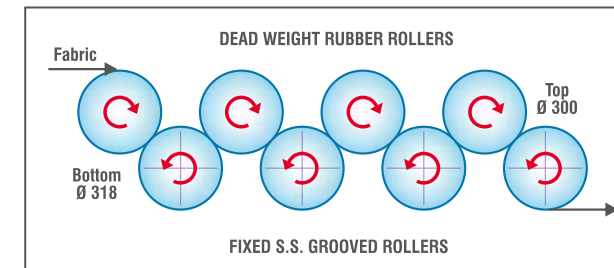


MERCERIZING PARAMETERS

- Hot mercerizing @ 60 degree C
- Cold mercerizing @ 18 – 20 degree C

THE EFFECTS OF FOLLOWING PARAMETERS IN MERCERIZING PROCESS

- Time - 30 to 45 sec for hot mercerizing & 40 to 50 sec for cold mercerizing.
- Temperature - Its require 60 degrees for hot process considering absorbency is faster but cotton swelling is less. 18 to 20 degrees slow absorbency but good swelling.
- Impregnator - The ideal 28 to 30 Be concentration of CAUSTIC SODA allows to changes fiber structure from corkscrew twist to round one.
- Stabilizer - the dimensional stability improves in stabilizing process, in which the concentration of caustic will reduce from 28 to 30 Be to 6 to 9 Be.
- Washing - removes remaining caustic from the fabric and gives you require width.
- Drying - After drying through heating cylinders and fabric is ready with high luster + dimensional stability + absorbency + soft feel.



STRETCHING & STABILIZING

- Horizontal chain moment form 3 mtrs to 12 mtrs
- Automatic Width adjustment of individual screw allows to maintain the require the width
- Vacuum suction with spray of LYE Be of caustic on regular intervals
- Automatic infeed device with proper decurling devices before entering into chain

FEATURES OF MERCERIZING

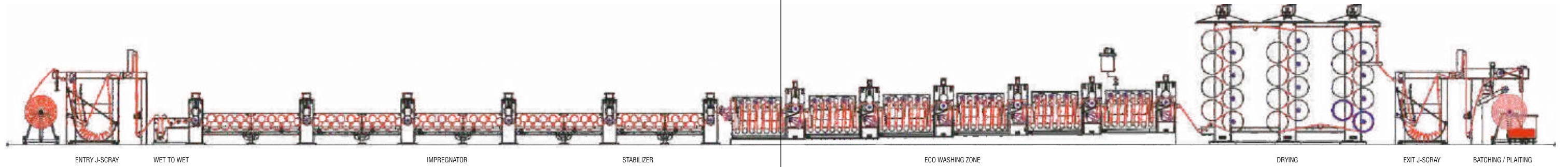
- STAINLESS STEEL tank for impregnator and stabilizer.
- Bottom grooved stainless steel drums mounted on bearings, fixed position type with low caustic liquor tank.
- Dead weight top roller, rubber coated.
- Circulation pumps system with spray for uniform caustization.
- Impregnator and stabilizer rollers are smaller in diameter (300 mm diameter). This helps in better penetration of the caustic as the pressure rollers are at shorter fabric passage. Numbers of rollers are also more in this system, but in enhances the quality. Further, threading of the fabric is much easier and simpler with this design.
- Accurate BAUME control system, helps to get require BAUME in short time.
- High efficiency washing compartments.
- Heavy and light squeezers designed at necessary positions for smooth working and control on the machine.
- Entire system and operations controlled by advanced PLC Technology.
- Neutralisation zone controls ACETIC ACID automatically through PLC.

IMPREGNATOR

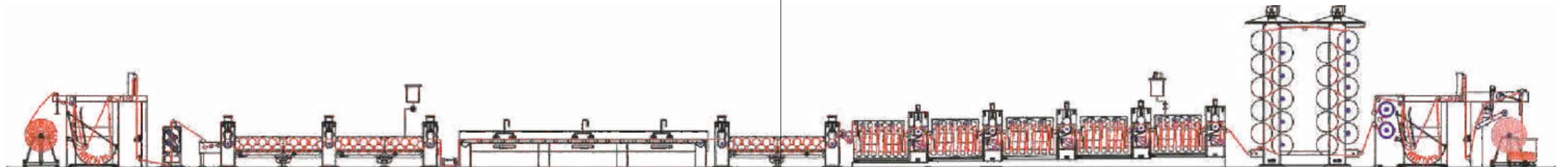
- Dead weight top roller RUBBER COATED allows better penetration of caustic in the fabric
- Screw threaded bottoms rollers for better gripping and crease free transportation
- Continuous circulation with filtration system of caustic to maintain the require be
- Even spray system through width on top of fabric
- Even tension controlling system allows smooth runs of the fabric
- Wet on wet mercerising entry with caustic concentration control



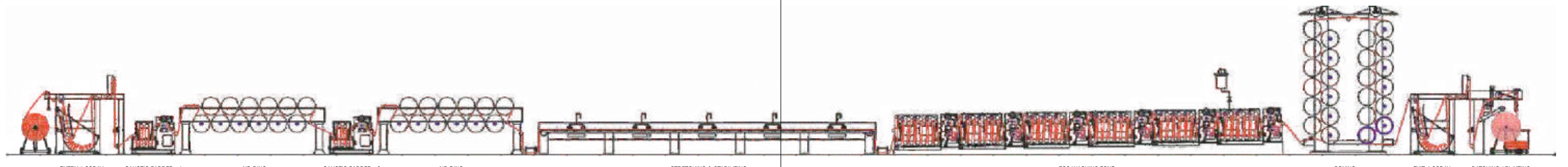
DIFFERENT CONFIGURATION



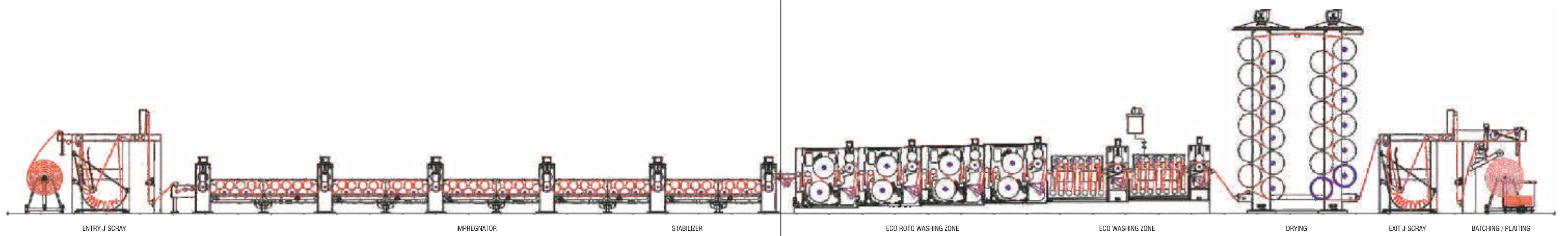
MERCERIZING RANGE



COMBI MERCERIZING RANGE



MERCERIZING RANGE FOR YARN DYED FABRIC



MERCERIZING RANGE FOR LYCRA FABRIC

CONTINUOUS DYEING RANGE

COLD PAD BATCH

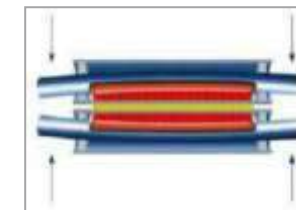
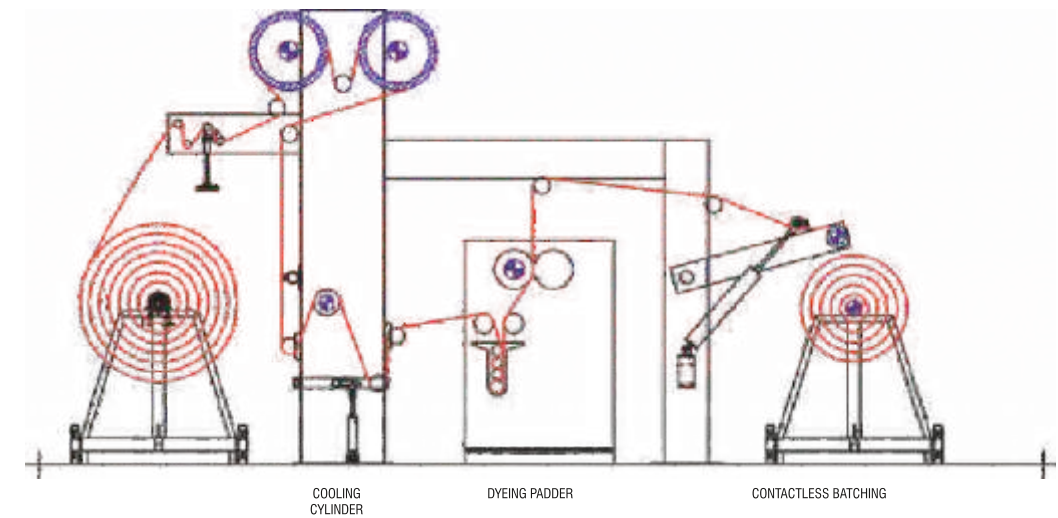


DYEING PROCESS

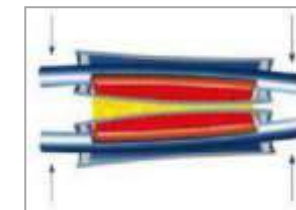
| Fabric | Process Useful | Dyestuff Used |
|--------------------|--|-----------------------------------|
| Cotton | Cold Pad Batch Pad Dry / Pad Steam Pad Steam in Pad Dry Thermofix Pad Humidity Control | Reactive dyes |
| Cotton | Pad Dry / Pad steam Pad Steam (wet/ wet) | Vat Dyes |
| Cotton | Pad steam in | Sulphur Dyes |
| Cotton / Polyester | Pad Dry Thermosol Pad steam | Reactive disperse or Vat disperse |

ADVANTAGES OF DYEING PADDER

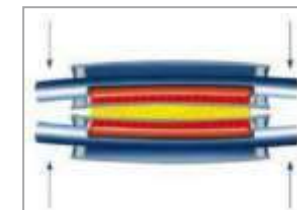
- The deflection controlled roll or swimming roll (s-roll) technology
- The linear pressure controlled throughout the width of fabric in left – middle and right
- No center – side variation
- Suitable for dyeing and developing
- Crease free transportation
- Automatic and controlled dosing by PLC, as per the requirement
- The liquor pick-up can be adjusted from 70–130%



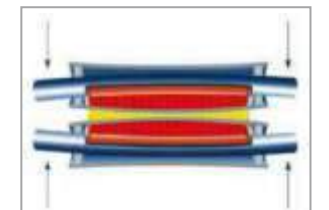
Even pressure throughout the width



Applicable pressure on the right side or either side of rollers



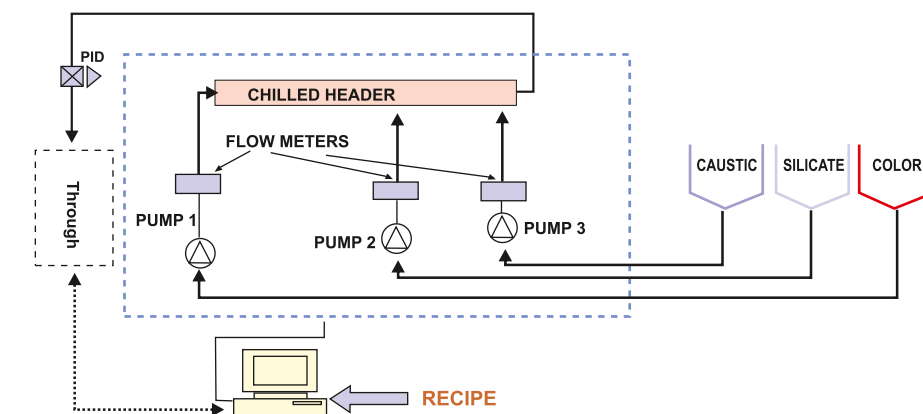
Adjustable low pressure in the centre



Adjustable high pressure in the centre

TECHNICAL PARAMETER

- An exact amount of chemicals is added with proper control and monitoring by flow meter and PID control valves
- Online dosing system for CPB Dyeing
- Individual control of dosing chemicals
- With input of fabric gsm and speed it is automatically calculated the dosing requirement during running
- Metering and recording of consumption
- Temperature controlling of liquor trough
- Water / chemical Initial filling (preparation liquor) is automatically calculated
- Easy to operate and handle
- Easy for cleaning

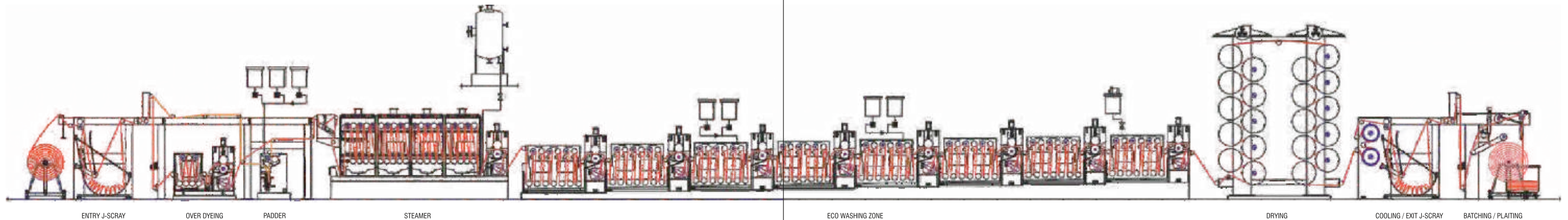




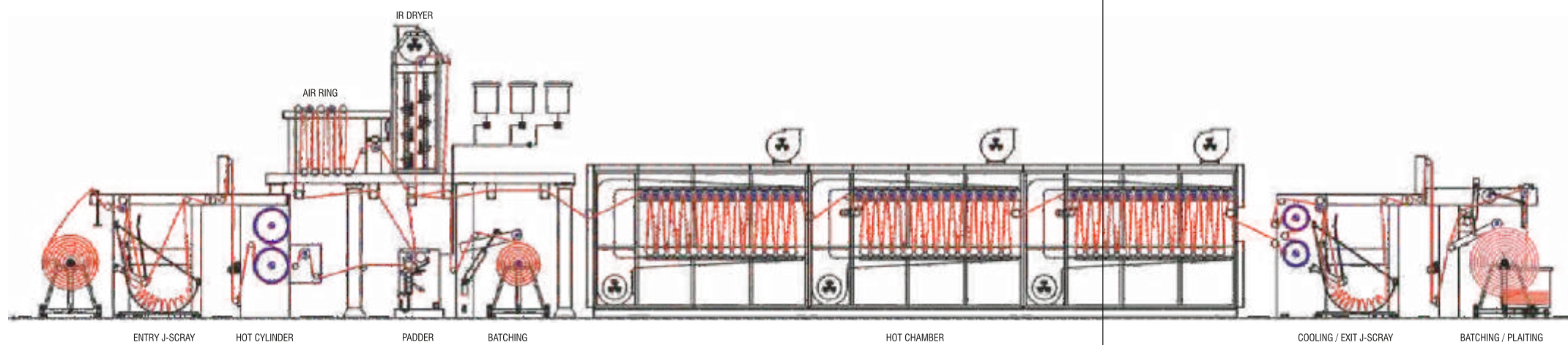
PAD STEAM RANGE

TECHNICAL DETAILS

- Steamer with saturated steam controlled by saturator.
- Even temperature throughout
- Roof heating
- 100% without drop of condensation
- Water seal to avoid steam losses and even liquor distribution with temperature control
- Tight stand with equal tension during running
- Automatic temperature control upto 99 degrees with PID control system
- Torque control motors for top rollers to maintain the tension
- Tight stand capacity from 15 mtrs to 90 mtrs



PAD STEAM RANGE



PAD DRY RANGE

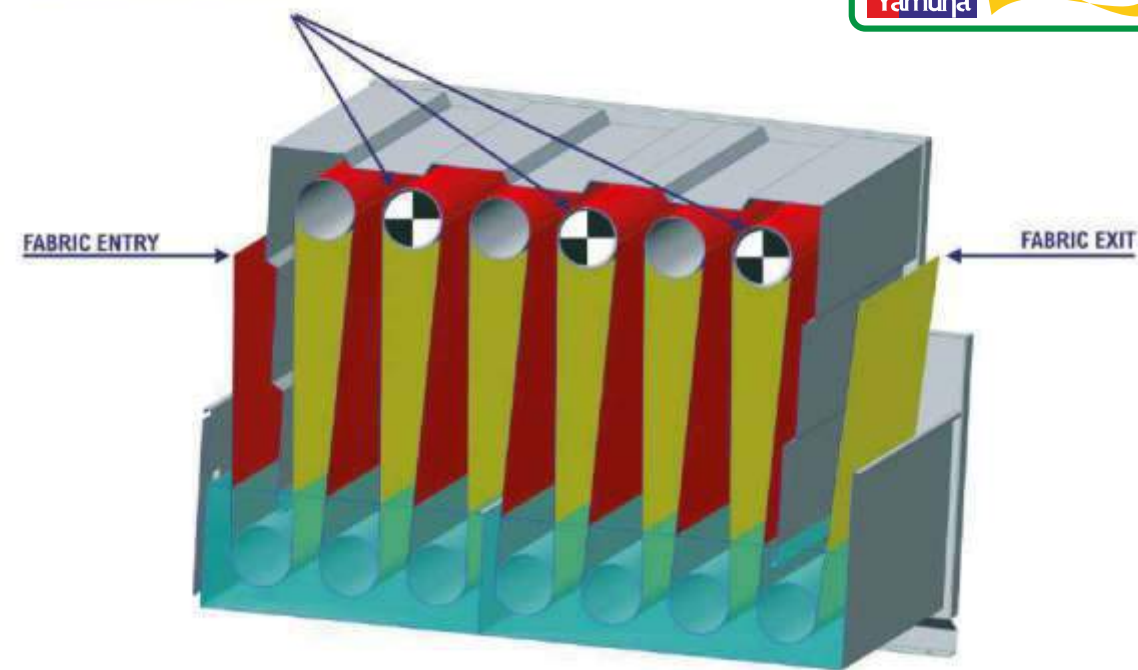
FEATURES OF STEAMER

- STAINLESS STEEL construction steamer, with additional EXTERNAL steam saturator. The steam feeding to the steamer is through the steam saturator which ensures uniform steam feeding and proper conditioning.
- Steam lock at entry - Steam heated lips at the entry of the steamer.
- Water lock at exit - Water lock at exit to avoid steam leakage along with the fabric moving out. Also avoids sudden cooling down
- Temperature upto 102 C.
- Heated roof to avoid condensation and dropping.
- Large glass doors with silicon sealing for easy threading and cleaning.
- Nip at exit of the steamer after fabric moves through the water lock. Squeezes the excess water as well as pulls the fabric for further feeding to washing boxes.
- First stack is equipped with TEFLON coated & remaining all S.S. rollers.
- 193 mm diameter of rollers.

CONTINUOUS WASHING RANGE

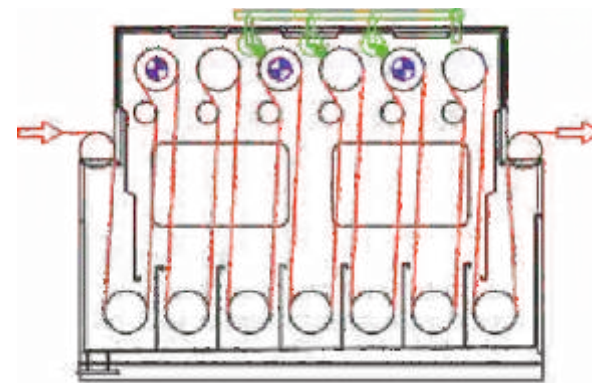
WASHING TECHNOLOGY

DRIVEN GUIDE ROLL FOR DELICATE FABRIC TRANSPORT



TECHNICAL DETAILS AND ADVANTAGES

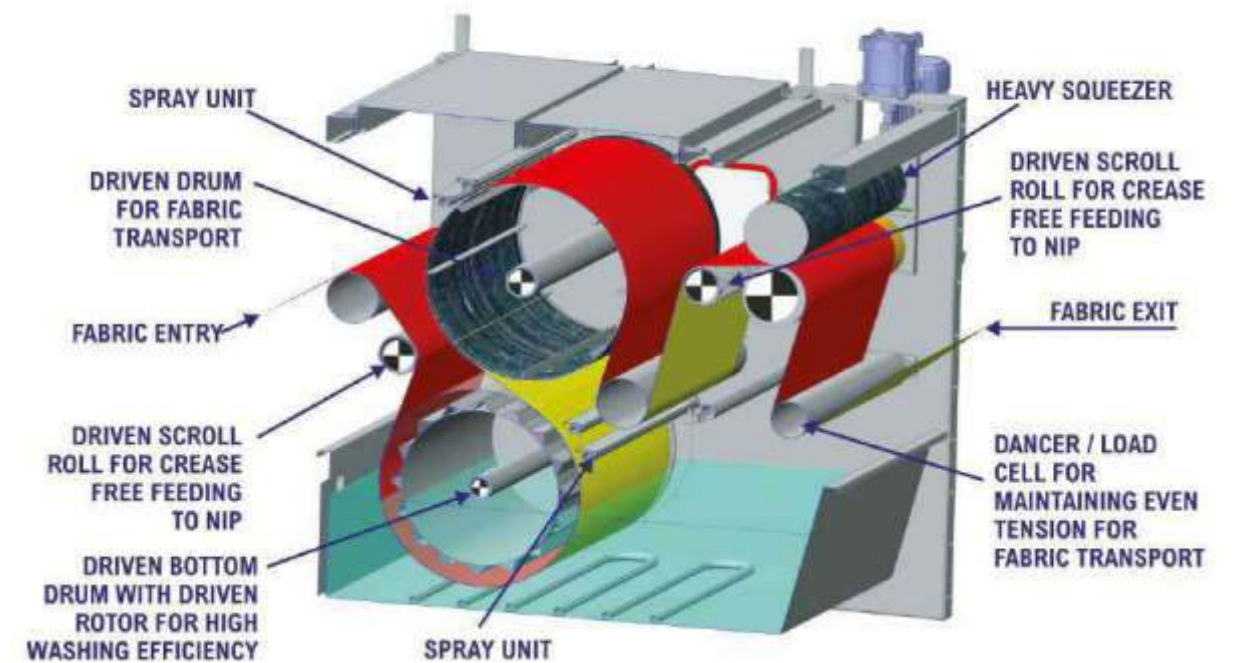
- Smooth and tensionless travelling of the fabric
- Crease free fabric running
- Driven top rollers through TORQUE CONTROL
- Selection of Dosing chemicals in require washing compartments according to process requirement
- Waste water heat exchanger
- Minimum water and steam consumption
- Power spray washing with combination of steam & water through nozzle



ECO WASH

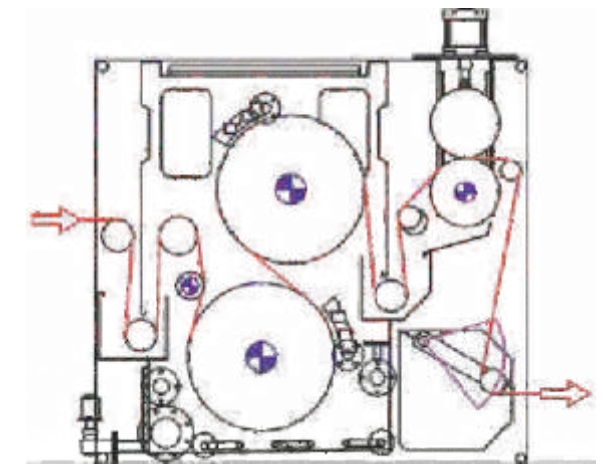
STATIONERY FILTER

- Highly effective filter to remove fluff from the water
- Easy removable filters made in stainless steel
- 2 filters with one core and other fine nets
- Specialized design pump for circulation and delivery from the filter



TECHNICAL DETAILS AND ADVANTAGES

- Specialize washing technology for delected / knits / stretchable fabrics
- Minimum tension travelling due to motorized driven top and bottom drums
- Perforated drums allows washing though the fabric
- Additional rotor driven for bottom drum gives turbulence effect and improves washing
- Driven scroll rollers at entry to open the fabric
- Heavy spray on both sides of the fabric
- Unique temperature control upto 99 degrees



ECO ROTO WASH

ROTARY FILTER

- Highly effective filter to remove fluff from the water automatically
- Rotary perforated drum
- Motorized brush to remove the fluff
- Pump for circulation



DYE WASHING RANGE

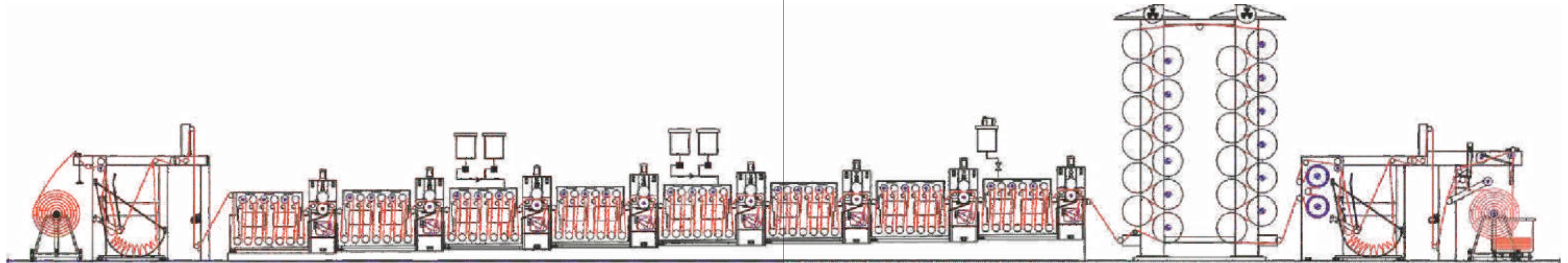
FEATURES OF DYE WASHER

- Eco wash box ensures high washing efficiency due to multi chamber system
- Due to counter flow meander system, washing process is subjected into various washing steps for effective washing
- Crease free fabric run
- Minimal water consumption and energy
- Can be used with different wash tank technology
- Helps achieve fastness properties norms
- Combination of Eco-roto-wash and eco wash removes surface contaminants effectively

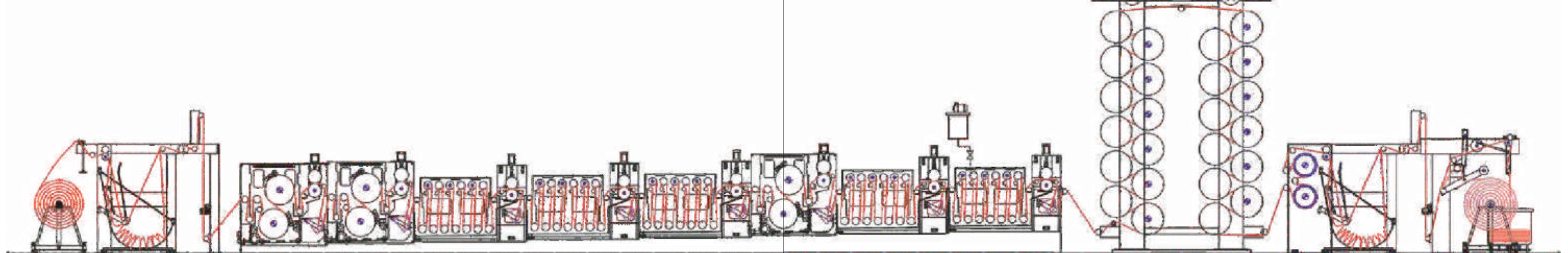
COUNTER FLOW SYSTEM

Counter flow technology provides multiple washing effects which starts from delivery to feeding. Improves washing efficiency and gives us better saving of water.

Dosing of chemicals, Flow control of water is automated and controlled based on the weight of fabric processed.



COTTON FABRIC

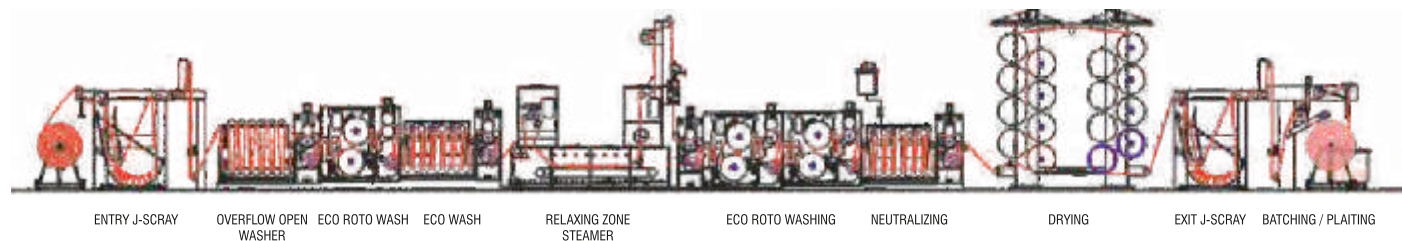


COTTON - LYCRA FABRIC

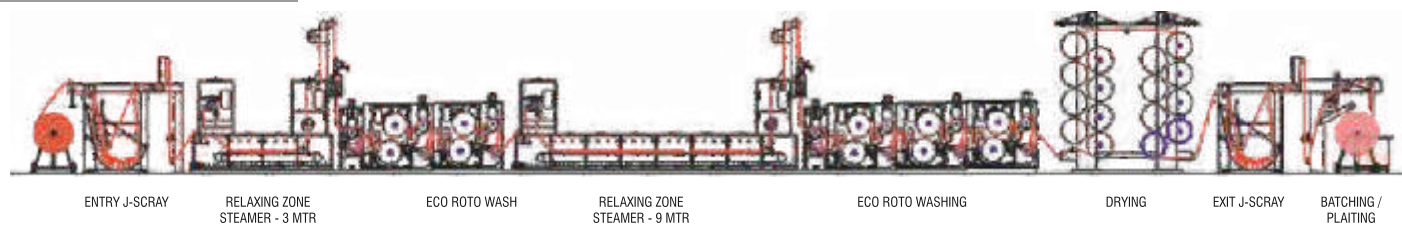
PRINT WASHING RANGE

FEATURES OF PRINT WASHER

- Effective removal of surface contaminants with help of eco wash or high mechanical agitation of eco-rotowash as per fabric needs.
- Sufficient dwell time provided to loosen and remove gum and unfixed colour from interlaces of fabric.
- Enables true brightness of colour and achieve high fastness properties with fabric suitable washing machines. Ensures crease free run.
- Takes care of delicate lycra content fabric during washing.
- In eco roto wash large drum positively driven helps high mechanical agitation while caressing the fabric through with care.
- Eco roto wash technology also has sprinklers where water falls on fabric from top to bottom while fabric moves from bottom to top for effective removal of surface contaminants and high wash liquor exchange.



COTTON FABRIC

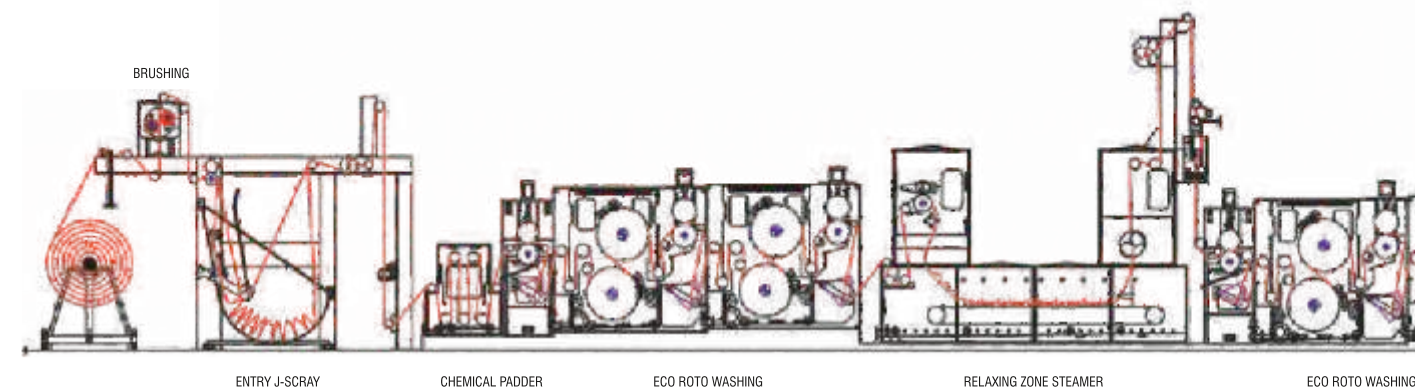


COTTON - LYCRA FABRIC



RELAXING ZONE

- Tensionless travelling of the fabric
- Relaxing on conveyor
- Conveyor length from 3 mtrs to 15 mtrs
- Closed chambers with even temperature in steamer
- Circulation with spray as per the requirement
- Unique design for perfect pilling of the fabric on conveyor
- Scroll rollers unit for perfect opening at exit of conveyor
- Exit equipped with specialized centering device
- Entire unit manufactured in stainless steel



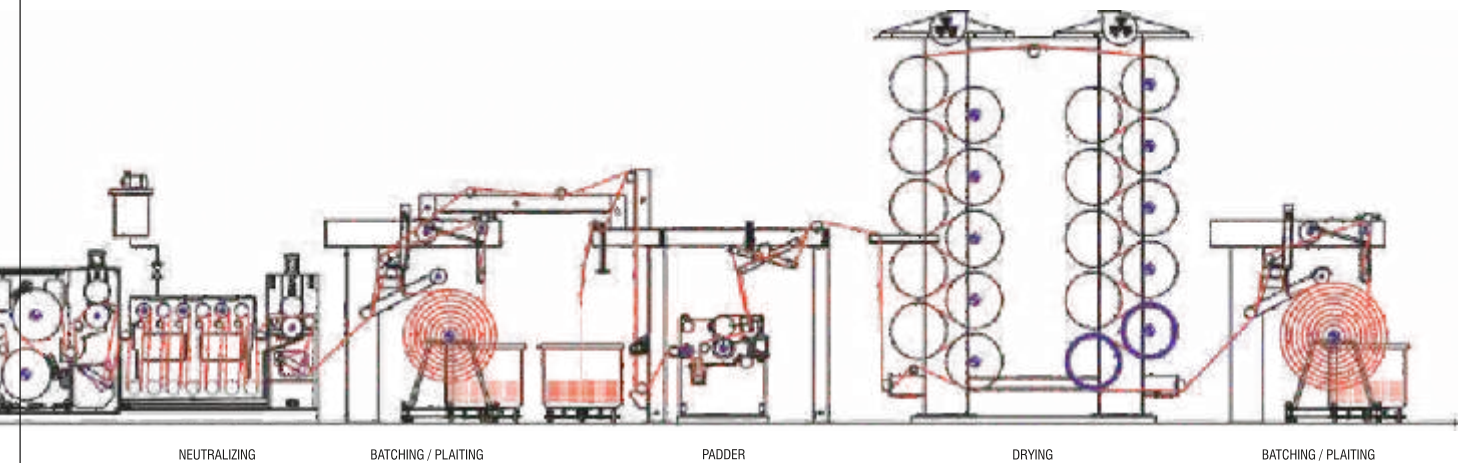
RELAX SCOURING RANGE FOR PV / PVC / MODAL FABRICS

RELAX SCOURING RANGE



FEATURES OF RELAX SCOURING RANGE

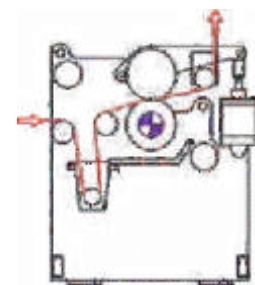
- Providing fabric passage under controlled tension
- Ensuring exact conditions for chemical processes to be carried out.
- Typically, grey suiting fabrics – PV, PC or PolyWool, are rough in handle, contain lots of spinning oils and contaminants.
- Maintaining fabric cross-structure by supported fabric passage over precisely manufactured perforated drums with special internal design.
- Relaxing zone comprised of a specially designed conveyor with spraying units ensure proper stress relieving of fabric. The fabric gets desired dwell time in the relaxing zone to regain its structure and relieves it from stress built up during the weaving process. The fabric handle thus improves drastically
- Vigorous washing of the fabric for removal of scouring chemicals.
- Neutralising of fabric in the exit end of the range for imparting easy handle and making it ready for subsequent processes.



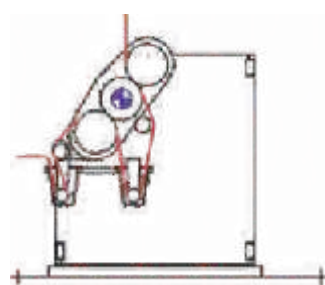
STENTER

FEEDING SECTION

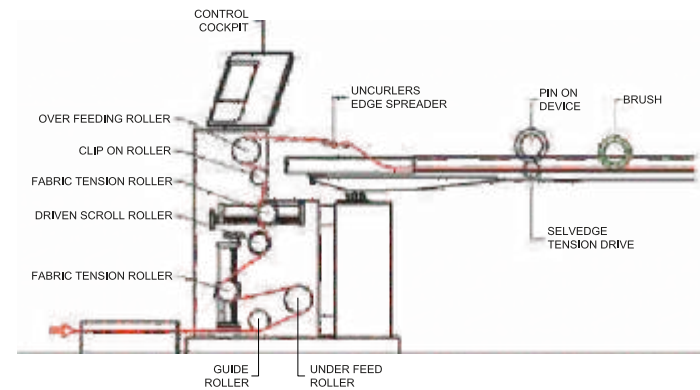
- Operate with variable linear pressure for top & bottom squeezing with R-E-R & R-R-R combination.
- Hydraulic deflection rollers for specialized squeezing purpose.
- Mechanical or Pneumatic arrangements for lowering & lifting of the tank with heating and cooling possibility of liquor trough.
- Bow or scroll rollers before entering in the padder.
- Shore hardness up to 100° are available.
- Maximum linear pressure: 500N/cm.
- Working width range 1200 mm - 4200 mm.
- Entire body frame from MS with SS cladding inside the wall.
- Rubber coated roll, assembled vertically 0 305 mm up to 2400 mm & 0 355 mm up to 4200 mm working width.
- Liquor circulation with auto level controlling.
- Compensating roller with pneumatic tension regulation & load cell control for different kind of fabrics.



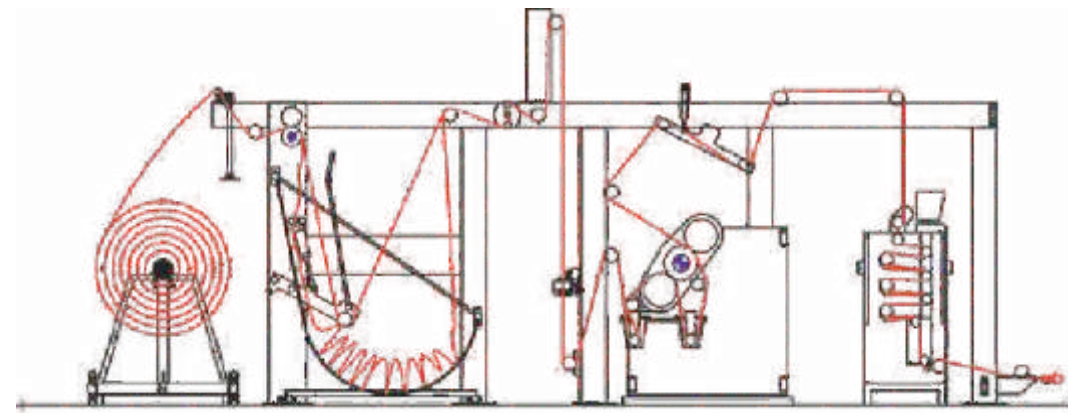
2 BOWL PADDER



3 BOWL PADDER



FEEDING BODY

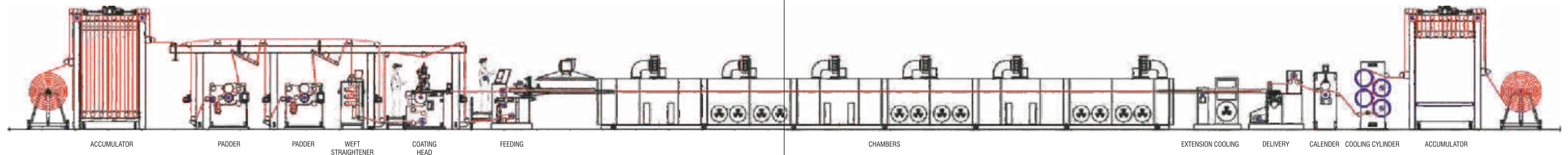


ENTRY J-SCRAY

3 BOWL PADDER

WEFT STRAIGHTENER

ENTRY J-SCRAY WITH MANGLE FOR WOVEN FABRIC



ACCUMULATOR

PADDER

PADDER

WEFT STRAIGHTENER

COATING HEAD

FEEDING

CHAMBERS

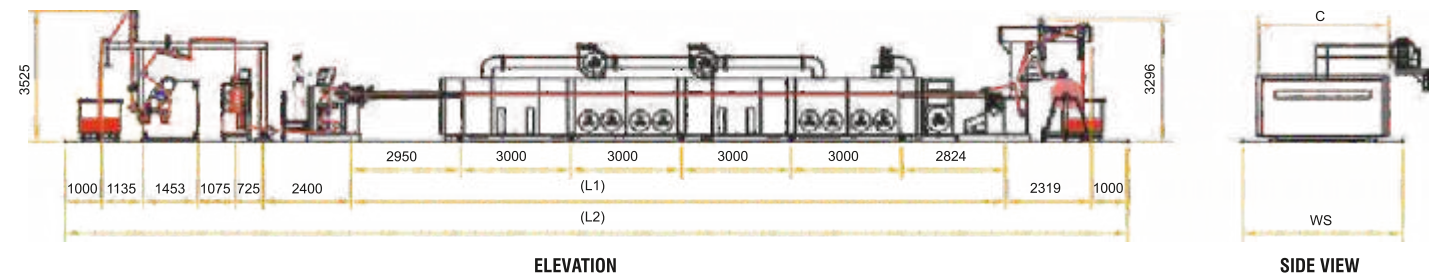
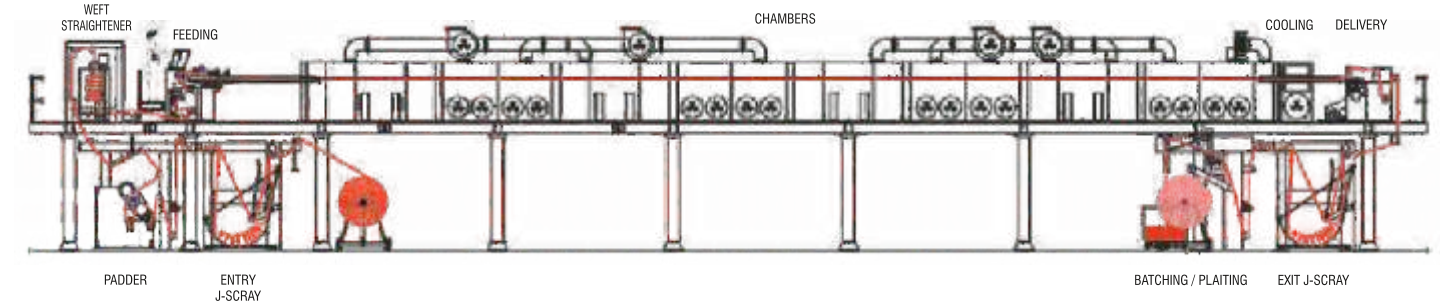
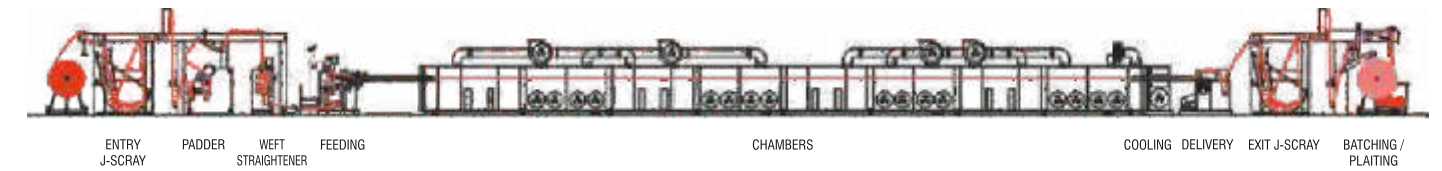
EXTENSION COOLING

DELIVERY

CALENDER

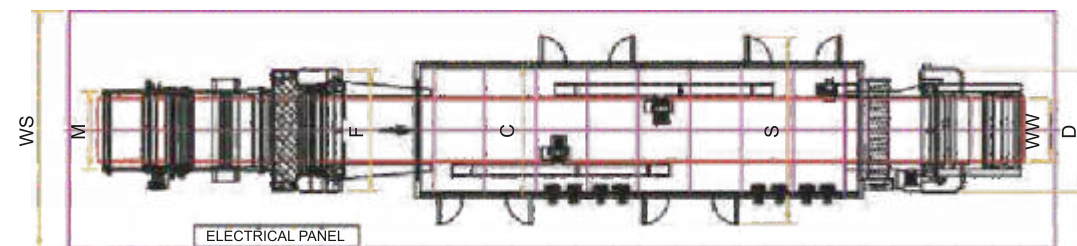
COOLING CYLINDER

ACCUMULATOR



ELEVATION

SIDE VIEW



PLAN

TABLE FOR WIDTH WISE DIMENSION SELECTION

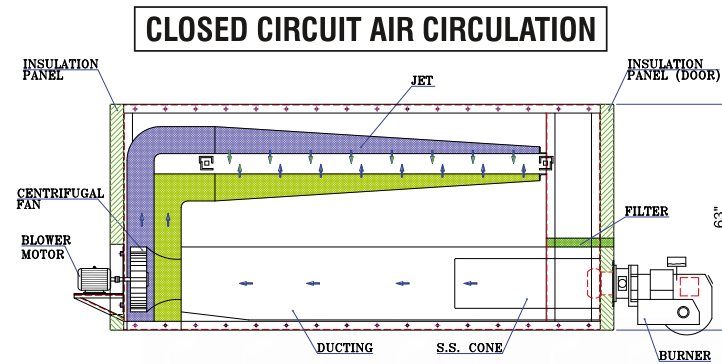
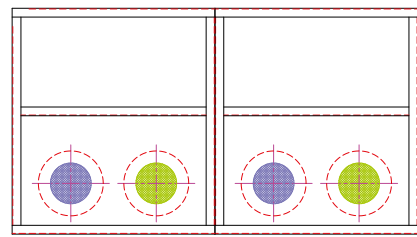
| | | | | | | | | | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| WW | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2500 | 2600 | 2800 | 3000 | 3200 | 3300 | 3400 | 3600 | 4000 | 4200 | 4400 |
| M | 1666 | 1866 | 2066 | 2266 | 2466 | 2666 | 2866 | 2966 | 3066 | 3266 | 3466 | 3666 | 3766 | 3866 | 4066 | 4466 | 4666 | 4866 |
| F | 2913 | 3113 | 3313 | 3513 | 3713 | 3913 | 4113 | 4213 | 4313 | 4513 | 4713 | 4913 | 5013 | 5113 | 5313 | 5713 | 5913 | 6113 |
| C | 3305 | 3447 | 3650 | 3891 | 4082 | 4260 | 4463 | 4539 | 4640 | 4844 | 5047 | 5250 | 5352 | 5453 | 5657 | 6063 | 6241 | 6444 |
| S | 4835 | 4977 | 5180 | 5421 | 5612 | 5790 | 5993 | 6069 | 6170 | 6374 | 6577 | 6780 | 6882 | 6983 | 7187 | 7593 | 7771 | 7974 |
| D | 2957 | 3157 | 3357 | 3557 | 3757 | 3957 | 4157 | 4257 | 4357 | 4557 | 4757 | 4957 | 5057 | 5157 | 5357 | 5757 | 5957 | 6157 |
| WS | 6340 | 6480 | 6680 | 6920 | 7100 | 7300 | 7500 | 7570 | 7670 | 7874 | 8080 | 8300 | 8400 | 8500 | 8690 | 9100 | 9270 | 9480 |

WW= WORKING WIDTH, VARIATION FROM 1200 mm TO 4400 mm.

TABLE FOR LENGTH WISE DIMENSION SELECTION

| | | | | | | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CHAIN LENGTH (NO. OF CHAMBER + EXTENSION) | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| LENGTH L1 in MM | 11774 | 13274 | 14774 | 16274 | 17774 | 19274 | 20774 | 22274 | 23774 | 25274 | 26774 | 28274 | 29774 | 31274 | 32774 | 34274 | 35774 |
| LENGTH L2 in MM | 22881 | 24381 | 25881 | 27381 | 28881 | 30381 | 31881 | 33381 | 34881 | 36381 | 37881 | 39381 | 40881 | 42381 | 43881 | 45381 | 46881 |
| LENGTH L2 in Feet | 75' | 80' | 85' | 90' | 95' | 100' | 105' | 109' | 114' | 119' | 124' | 129' | 134' | 139' | 144' | 149' | 154' |

CHAMBER DETAILS



INDEPENDENT AIR FLOW SYSTEM

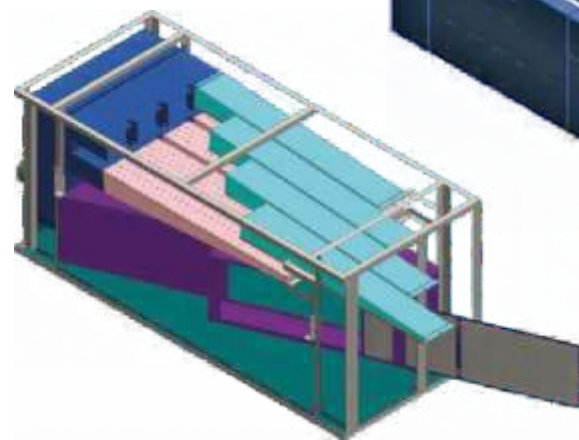
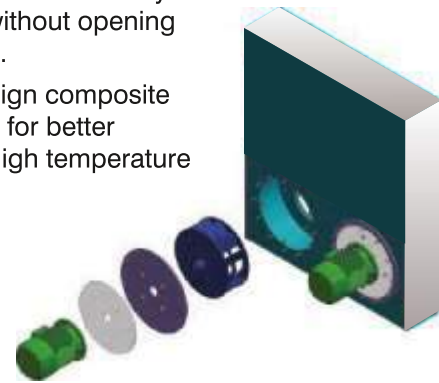
- Individual blowers for top & bottom jets.
- Air ratio between top and bottom jets can be controlled and adjusted easily at fingertip through touch screen at the central control unit.
- Special application for finishing TECHNICAL TEXTILES - If desired only top or bottom air can be used individually.

ENERGY SAVING

Energy savings and increased production up to 8% to 15% obtained through higher efficiency of fan system arrangement as well as unique chamber insulation performance of machine compared to the traditional machines.

EASY MAINTENANCE & OPERATION

- Entire blower motor assembly can remove easily without opening insulation panel.
- Specialized design composite insulation panel for better insulation and high temperature application.



EASY MAINTENANCE & OPERATION

- Easy removable individual fingers for cleaning purpose.
- Openable covers for individual fingers.

MULTIPLE FILTERS

- Online filter cleaning without stopping the machine.
- With option for one core and another fine filters net.



HEAT EXCHANGER MODULE OIL OR STEAM

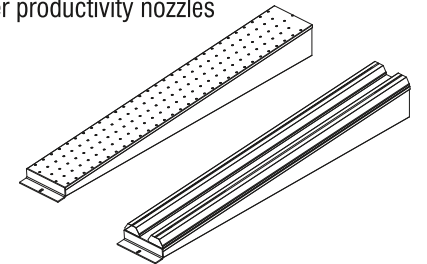
1500 mm long finned type radiator with multipass arrangement of FLOW.



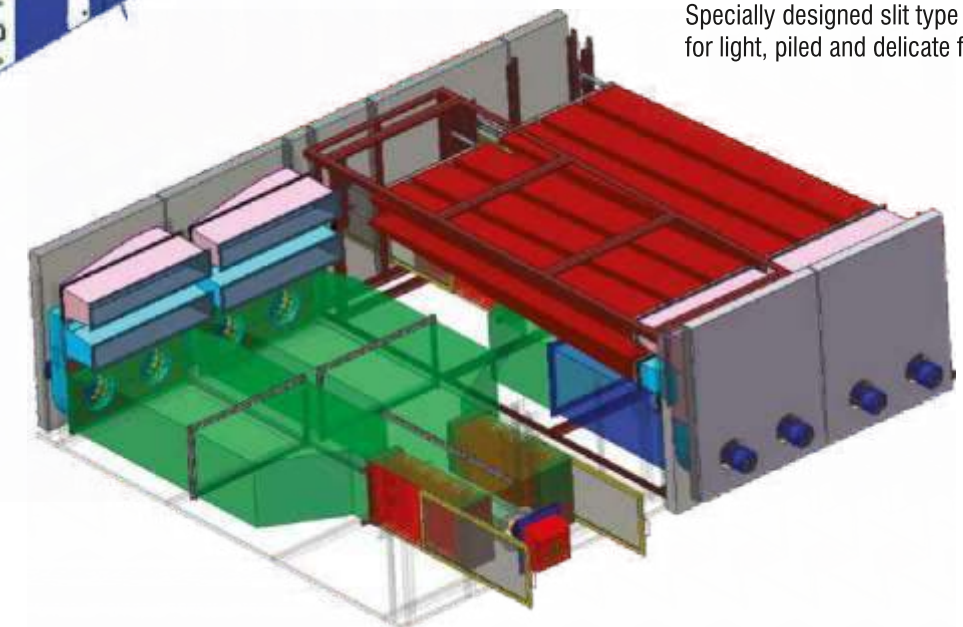
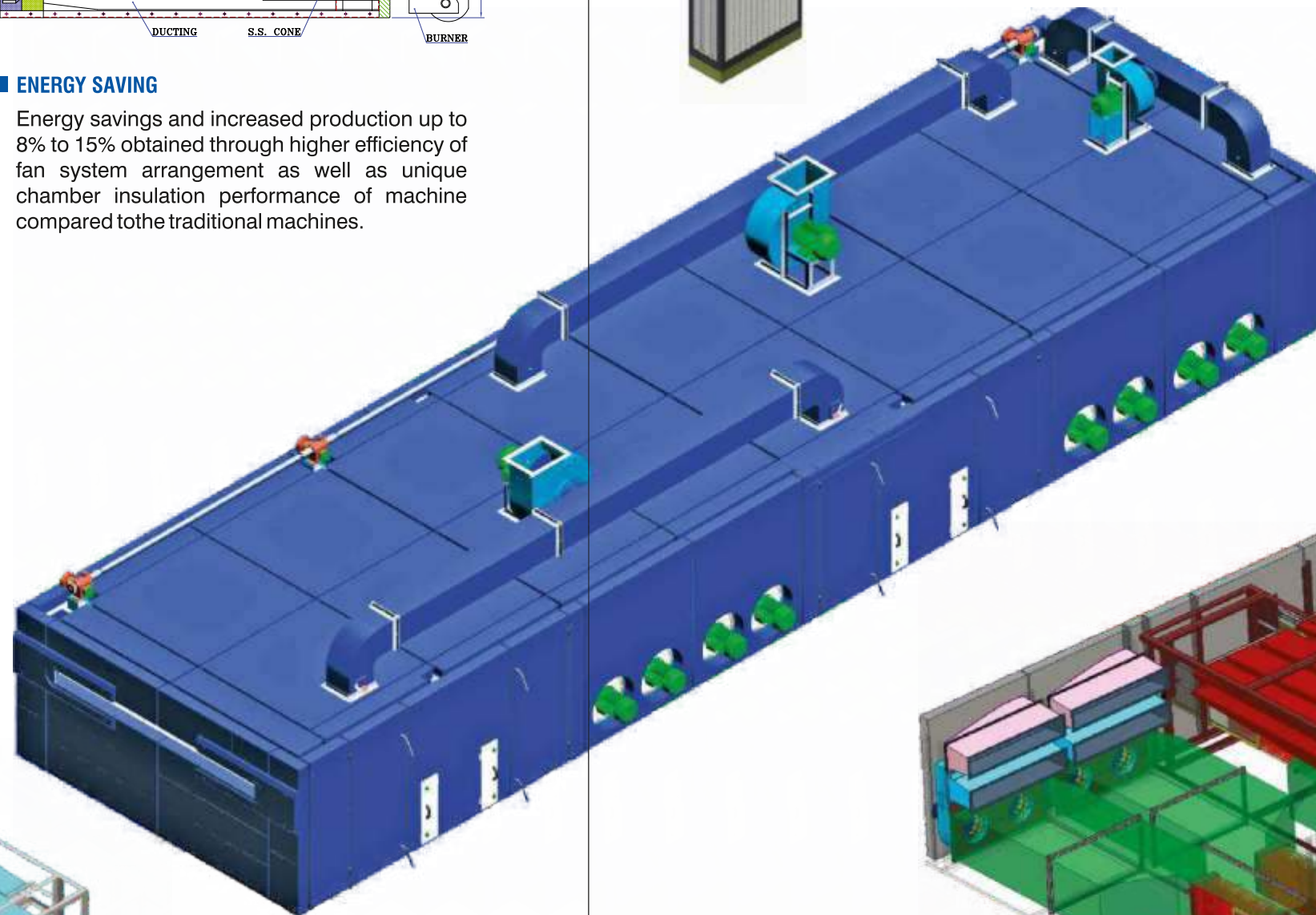
INDIVIDUAL WIDTH CONTROL

Maintenance free width adjustment motorized spindles with directly coupled geared motor with encoder

Higher velocity and
Higher productivity nozzles



Specially designed slit type nozzles for light, piled and delicate fabric



MULTIPLE HEATING PROVISION

Variable Heating Media :

- Gas Heating- Modulating type GAS burners for better temperature control for heavy & light fabric.
- OIL Heating - Proportionate control through PLC for PNEUMATIC or MOTORIZED valves for accurate controlling.
- STEAM Heating - Heating with FINNED TUBES & condensate removal system.
- ELECTRICAL HEATING - Heating with VOLTAGE CONTROL.
- Dual Heating-combination of Steam and Gas heating system.

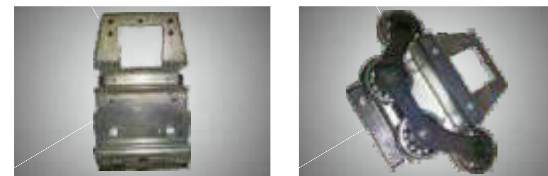
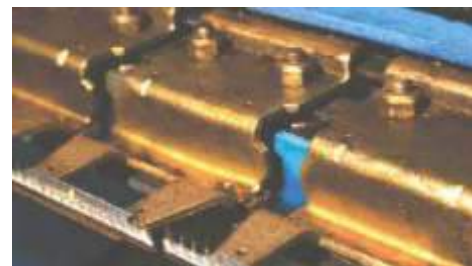
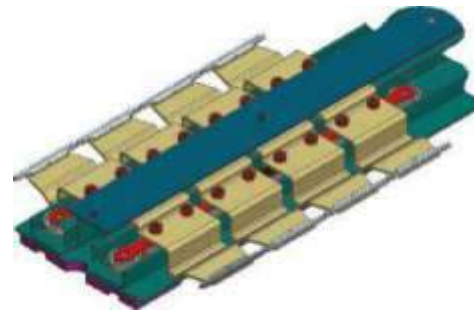
CHAIN AND CHAIN RAIL SYSTEM

Horizontal type fabric transport chain system are available depending on the fabric to be processed. Chain system is available with pin, clip or combination of pin and clip. Specially designed pin bars and clips ensure the safe handling of even most delicate fabrics. Heavy and longer pin bars are available for finishing thicker fabrics like carpets, canvas and blankets.

MODEL PREMIUM



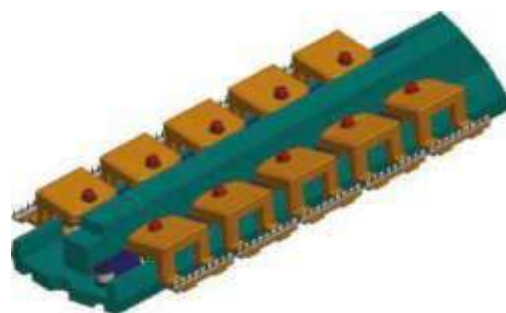
- Rail & pin block from Alloy steel & clip block from aluminum with synthetic liner.
- Special design ball bearing type chain with automatic lubrication.



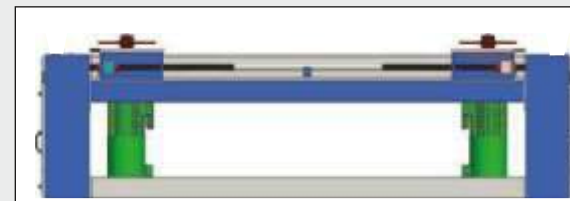
MODEL QUADRA



- Cast iron rail with aluminum pin & clip block with Bronze liner.
- Automatic lubrication system.



MAIN DRIVE SYSTEM



Individual drive for L.H.S. & R.H.S.

Two options are available - in standard version common drive to LHS and RHS chain, connected through shaft and bevel gears. Optionally individual drive to LHS & RHS with servo controlled system.

Exit of the machine can be with plaiting, big batching, surface batcher and center winder with non stop options of J Scray and Accumulator.

OPTIONS FOR COOLING

- A) Cooling zone with Air Circulation.
- B) Cooling zone with Chilled Water Circulation.



Common drive for L.H.S. & R.H.S.

AUTOMATION WITH INDUSTRIAL PC

Our QUADRA & PREMIUM models with complete automation comprises the following:

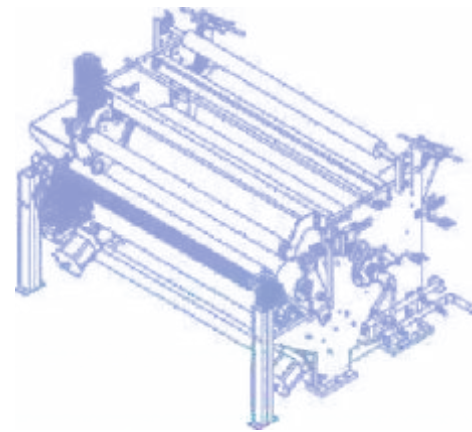
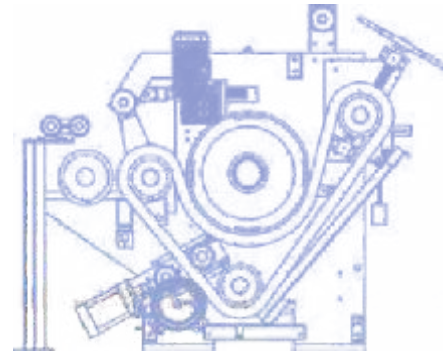
- Individual width control-gearred motors with ENCODER control for width adjustment.
- AC frequency controlled drive for main Chain, Mangle, Underfeed / Overfeed, Selvage RH and LH Tension, Exhaust, all blowers, Plaiter / Batcher.
- PLC with touch screen/Industrial PC to monitor and control the process parameters.
- Software / interface on latest communication technology.
- Temperature control of each zone by PLC.
- Air flow control for top/bottom nozzles from touch screen.
- Fabric temperature sensor and dwell time controller.
- Residual moisture controller.
- Exhaust humidity controller.
- Automatic overfeed and residual shrinkage controller.
- Individual login password for different levels.
- Recipe Management with production reports on required intervals.
- Easy Alarms & Fault findings through PC .
- Team viewer connection.
- Maintenance Schedule & Records.



SHRINKING RANGE

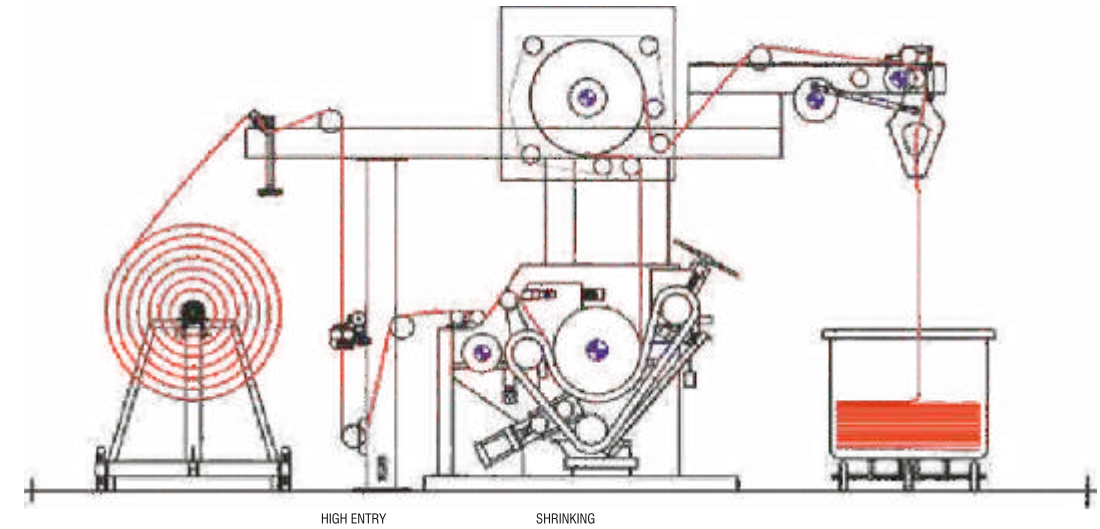
SHRINKING UNIT

- Main cylinder 610 mm dia from stainless steel and mirror polished.
- Directly coupled gearbox and motor for drive to main heating drum.
- SS Cladded roller, tension rollers and guide rollers 220 mm dia approx. cladded with stainless steel seamless Pipes machined and mirror polished.
- Pressure roll and tension rolls are motorised.
- Pneumatically operated pair of squeeze rollers provided.
- Two Number perforated pipes provided for external and internal cooling of rubber belt.
- One number grinding roll with suitable drive for grinding the rubber belt with stand and two Nos. jacks.
- One number endless rubber belt (ROLLINS / DUNLINE MAKE).
- Rotary joints are provided for steam inlet and outlet along with Teflon wire braided house pipes.

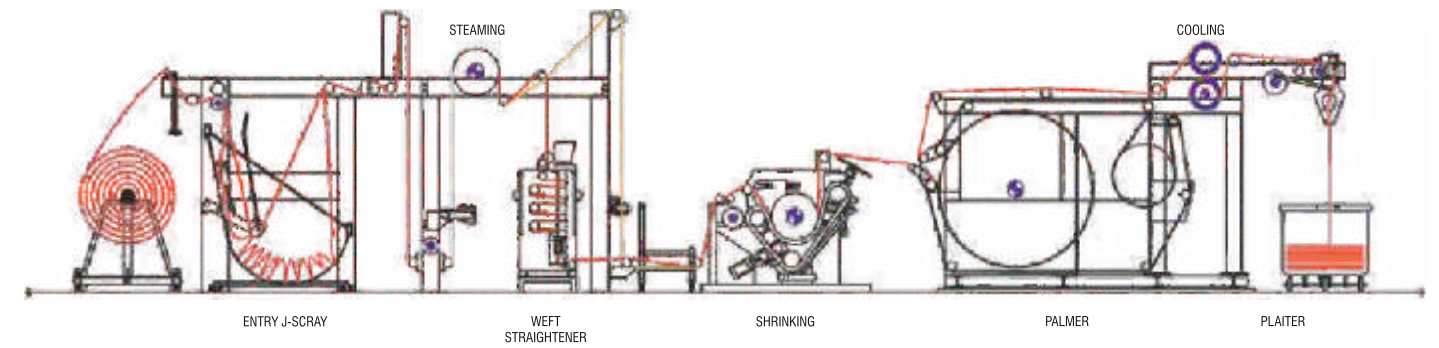


FELT CALENDER UNIT

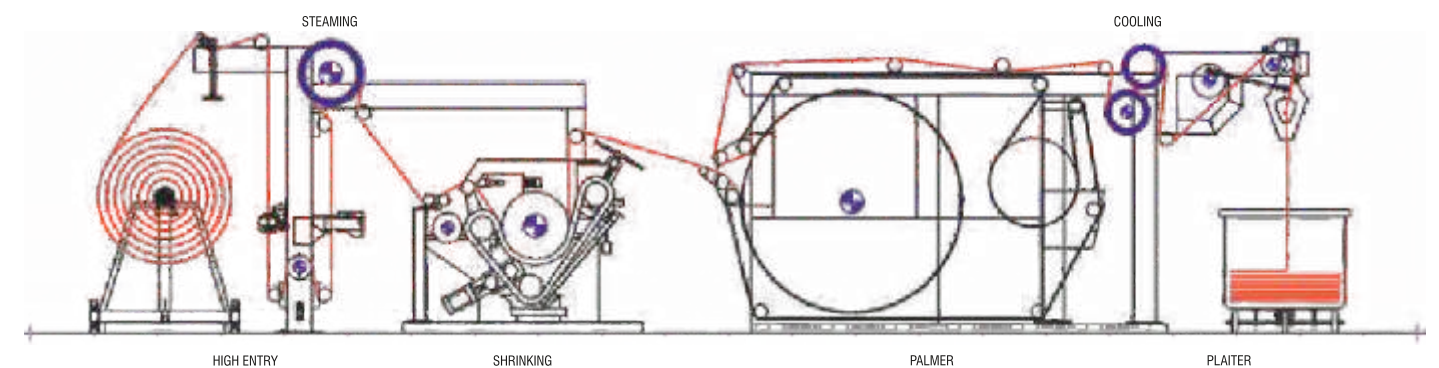
- After shrinking, the fabric needs to be dried and give final finishing.
- For blended fabrics, light cottons, this is accomplished by drying over a steaming cylinder diameter of 1000 mm. The fabric is passed over this cylinder, with an endless non woven needle punched fabric felt.
- For 100 % cotton, where the moisture content is more for high shrinkage this is accomplished by larger steam heating drums of diameter 2000 mm.
- for denims, where weight, moisture and shrinkage requirement is high the steam drum diameter is of 2500 mm.



COMPACT SHRINKING RANGE



SHRINKING RANGE WITH ENTRY J-SCRAY



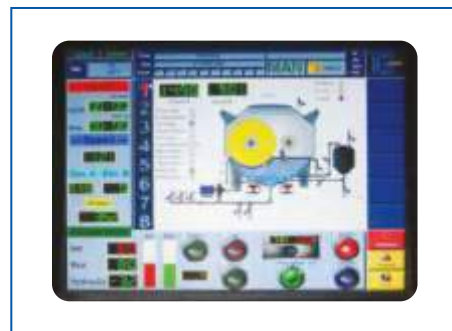
SHRINKING RANGE

JIGGERS (SERVO / HYDRAULIC)

For Scouring, Bleaching and Dyeing using various dyes like Vat, reactive or sulphur. Tensionless dyeing, no center selvedge variation, no tailing effect. Machines are available from 1600 mm to 3400 mm working width in different capacities.

Technical data (Roller face width 200 cms)

| Model | Y500 | Y800 | Y1100 | Y1400 |
|---|--------------------|--------------------|--------------------|--------------------|
| Capacity | 100 Kgs | 250 Kgs | 500 Kgs | 1000 Kgs |
| Batch Dia (mm) | 500 | 800 | 1100 | 1400 |
| Fabric Tension (kg) | 3-20 | 3-30 | 5-50 | 5-50 |
| Hydraulic Power Pack Unit (kw) | 2.2 | 3.75 | 5.6 | 11.25 |
| Direct Heating | YES | YES | YES | YES |
| Indirect Heating with external heat exchanger | YES | YES | YES | YES |
| Selvedge Shifting | NO | YES | YES | YES |
| Pressurised Vapour Escape Arrangement | NO | NO | YES | YES |
| Batching Motor | NO | YES | YES | YES |
| Overall Dimensions (W x L x H) mm | 1100 x 3000 x 1930 | 3000 x 3800 x 2200 | 3500 x 3900 x 2300 | 3900 x 3900 x 2300 |



Y500



Y800



Y1100



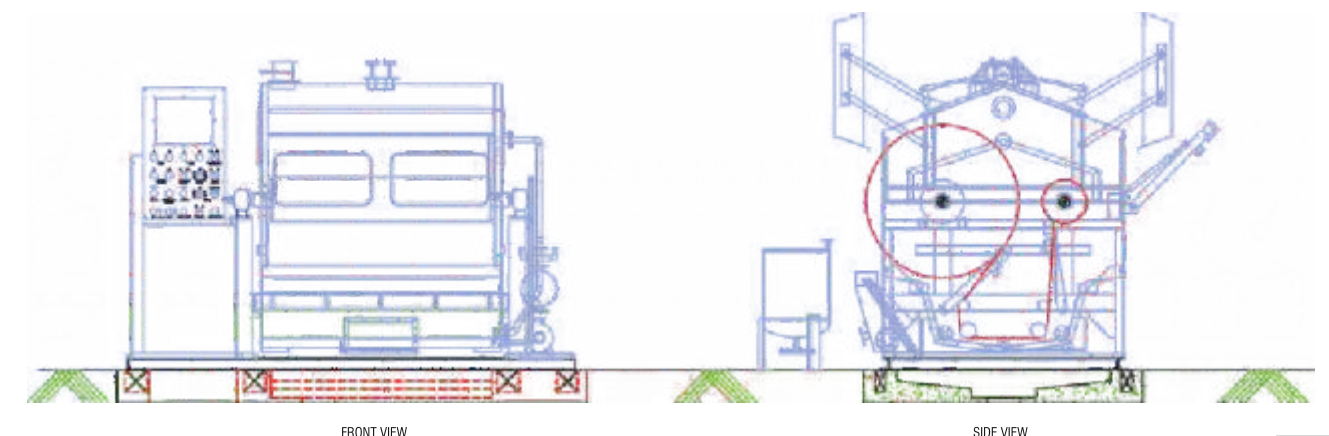
Y1400

SALIENT FEATURES

- Stainless Steel construction closed type jigger with pneumatically operated doors. For Y500 model, door opening is manual with gas spring.
- Hydraulic Drive to both rollers as well as for batching/loading motor. Hydraulic Unit is controlled by VFD system connected to the power pack which saves energy by about 40% on the installed power.
- Liquor circulation system is provided along with a shell and tube type heat exchanger and a filtering system.
- Indirect type heating avoids dilution of the liquor and maintains the temperature of the bath more accurately. Self-cleaning continuous rotary filters are offered for scouring worsted fabrics with high fluff. Liquor circulation pump is also provided with a VFD wherein the speed of circulation can be controlled depending on the process i.e. lower circulation speed in dyeing as compared to high speed in scouring/washing.
- Hood is with heating arrangement to avoid condensation.
- Water spraying arrangement by nozzles for efficient rinsing.
- Automatic back and forth pendulum type oscillations avoid unbalancing of the batch when the machine is idle. Both semi automatic and fully automatic versions are available with PLC.
- Semi automatic version has automatic reversal and tension control, auto speed, auto temperature control, water filling and drain, pendulum mode.
- Fully automatic version has volumetric inlet of fresh water (programmable to control the liquor ratio precisely), linear or at will dosing of dyes and chemicals, automatic reversal, auto temperature, auto speed control, drain, filling, sampling, process steps and complete recipe management for reproducibility. Process steps right from loading to unloading can be programmed with operator calls for sampling. Unique software ensures uniform dyeing with no center selvedge variation or tailing. Complete programmable software provides history of alarms, recipe management for process repeatability.
- With a cluster of jiggers, complete system can be provided with remote monitoring and data acquisition software. Individual machines can be controlled as well as total efficiency of all the machines can be monitored from a single point. Dosing of dyes and chemicals directly from the color kitchen as well as downloading and monitoring recipes on each machine can be easily done from a single interface. Utility consumption data and production reports along with other MIS reports can be generated.



HYDRAULIC JIGGER



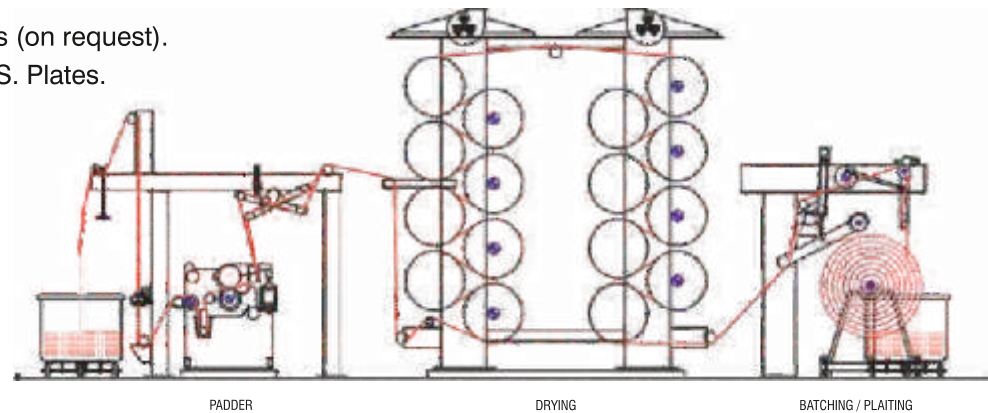
FRONT VIEW

SIDE VIEW

CYLINDER DRYING RANGE

CYLINDER DRYING RANGE

- Roller Face (mm): 1600 - 3600
- Cylinder Dia : 800 mm
- Design Pressure - up to 5 bar.
- Design Temperature - 150 C.
- Shell material - S.S. AISI - 304.
- Shell thickness - 2.5 mm
- Teflon Coating : 50 microns (on request).
- Stacks Fabricated from M.S. Plates.
- Hood : SS hood with exhaust system (on request).
- Platform and ladder for ease in cleaning and maintenance.
- Entry with a set of curved rubber expanders.
- Steam and Condensate removal system.

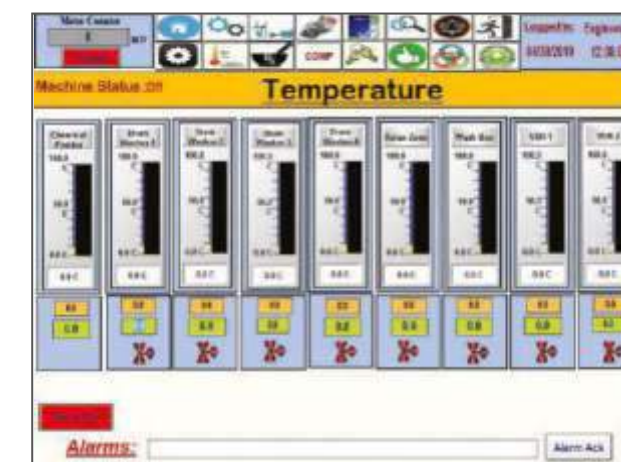
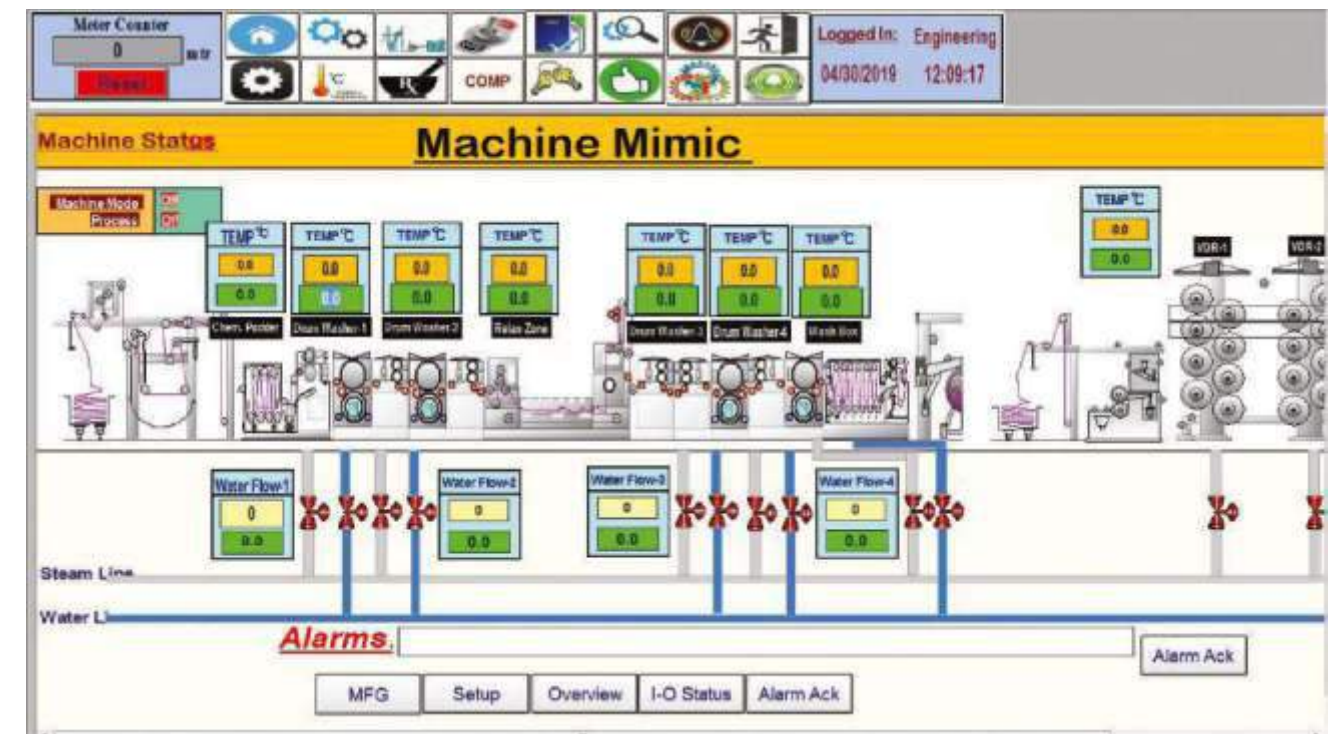


DRIVE SYSTEM

Cylinder dryers can be equipped with individual drive to each cylinder. Individual drive system, each cylinder is coupled with a geared A.C. motor. Individually driven cylinders are synchronized with PLC. Especially suited for non woven and delicate fabrics where tension regulation is very critical as the fabric dries. Fabric residual moisture controller can be provided at the exit of the drying range. The feedback from the controller either controls the speed of the machine or steam flow (depending on the process requirement). Cylinder dryers can be supplied as independent machine with squeezer and plaiting batching or in conjunction with continuous processing machines.



PROCESS PARAMETERS AND AUTOMATION



CONTROLLING FEATURES

- Control and monitoring of water
- Control and monitoring of dosing chemicals
- Steam totalizer
- Power totalizer
- Visualization of entire range
- Machine operations and its controls
- Recipe managements
- Remote control access via teamviewer
- Error list

