



Machine

A.C.C. STENTER

A.C.C. STENTER IS A HIGH QUALITY, STATE-OF-THE-ART STENTER MANUFACTURED BY A.C.C. MACHINE AT WORLD STANDARDS THAT IS USED IN THE FINISHING PROCESS OF WOVEN AND KNITTED FABRICS AND IS CAPABLE OF PROVIDING DIMENSIONAL STABILITY AND ANTI-SHRINKING.

Using A.C.C. Stenter, the finishing process of woven and knitted fabrics can be accomplished at ideal measurement values.

A.C.C. Stenter is manufactured with three different heating options according to customer needs: Natural gas heated, hot oil heated or steam heated.

The thermodynamic and aerodynamic principles are carefully implemented in the design of A.C.C. stenters and through this, the finishing process of fine, sensitive and contemporary fabrics can be accomplished at desirable standards.

A.C.C. STENTER DETAILS

INTRODUCTION

A.C.C. Stenter is equipped with an ergonomically designed computer controlled platform that allows the operator to operate the machine in an ideal manner. The software program installed on the computer controlled platform was completely designed by the software programmers of A.C.C. Machine. All the operation and monitoring of the stenter machine is carried out from the touch-screen monitor of the computer controlled platform.

COMPUTER CONTROL PANEL MENU INFORMATION:

Operations Menu: Date, time, lower/upper feeding, left/right brush, and exhaust speed are adjusted from this menu. Contains also the length counter.

Selection Menu: Left/right brush, selvedge dryer, steamer, lower/upper feeding, and expansion motor are adjusted from this menu.

Breadth Expansion Menu: Shows the dimensions of the breadth expansion spindles. The breadth of the machine can be completely opened. It can also be opened independently with 8 cm intervals.

Exhaust Menu: Inverter controlled exhaust fan motor and suction speed are adjusted from this menu.

Exit Menu: Exit roller speed, plaiting roller speed, batching roller speed and machine speed is adjusted from this menu.

Lubrication Menu: Lubrication and waiting periods are adjusted from this menu. Manual lubrication can also be selected from this menu.

Fan Menu: In this menu, all chamber fans can be automatically or manually started. Their speed can also be controlled from this menu.

Heat Control Menu: In this menu, the temperature of each chamber can be adjusted and displayed separately.

Process Control Menu: This menu shows customer information and machine settings for the processed fabrics. This information may be retrieved and applied for other fabrics as well.

Alarm Menu: In this menu, current and past alarm information for the machine is displayed.

The entrance frame contains spiral rollers for smoothing the selvedge curls and manually controlled diagonal acceptor rollers before the fabric enters the machine.

Contains lower and upper feeding rollers that is capable of providing a feeding capacity of 50 % for polyester, viscose and lycra fabrics. It is also equipped with pneumatic controlled chain feeding wheels and brushes that allows the fabric to be feeded through the pins at the same speed as the lower and upper feeding rollers mentioned above. The left and right chain feeding wheels and brushes can be adjusted to provide feeding at different speeds.

Entry chain unit is designed at 3 metre or 6 metre lengths for woven or knitted fabrics based on customer needs. The 6 metre chain entry unit is equipped with a breadth expansion system that expands the fabric in different steps.



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Selvedge curls are smoothed perfectly using Tandematic brand selvedge expanders and fabric is passed through the pins using Microtech brand selvedge control photocells. The fabric is fully settled on the pins by selvedge reinforcement brushes. Using a rack head traversing system, rapid and reliable processing of fabrics is accomplished.

By passing the fabric through a steamer unit before entering the chambers a better touch and effect is obtained. An air fanned steam screening system is used for protecting the electric circuits and motors from the steam.

A conveyor system with circular belts is located at the chain entrance unit that functions synchronously with the upper feeding roller and carries the center of the fabric to the chambers during ample feeding instances.

Knitted fabrics are prepared for selvedge cutting process by first passing them through a starching unit by means of a selvedge starching wheel. The starched fabric selvedges are dried by using LEITER brand selvedge dryers. Using these devices, the temperature can be increased up to 700 °C without changing the speed of the machine.

The chain rails are imported from abroad and are made from durable metal casting. A horizontal chain system is used which has the capability of increasing the endurance of the machine. With the horizontal chain system, very thick woven fabrics can be processed securely at the desired tension.

Chain lubrication can be done manually or automatically by adjusting the speed of the chain.

CHAMBERS:

Special chamber construction is possible if fast transportation and mounting is needed. Chambers are manufactured with lengths of 3 metres at any width based on customer requirements. The lower, upper and side walls of chambers are insulated with rock wool panels that have very low heat transfer coefficients and heat resistances of 700 °C. Entry and exit chambers are equipped with inclined spinneret system for preventing condensation and dripping. This system generates an air screen at the entry and exits of the chambers which increases the performance of the machine. The entry and exit chambers are also equipped with rail bellows that open together with chains. All the sheets inside the chambers are galvanized. Black color material has not been used in any part of the machine that is viable to rusting. By this way, the lifetime of the machine has been increased.

Each chamber is equipped with a symmetric spinneret and fan system for preventing fabrics from having differences in colors and panels. Special design overcomes static pressure at the tips of the spinnerets. Uniform air circulation has been established in the chamber by increasing the speed of hot air while passing through narrowed spinneret tips. Furthermore, the wings on spinnerets direct the hot air flow towards the fabric. Lower and upper spinneret hole axes have an asymmetrical design which gives the fabric an ideal touch and effect.

The air heating up inside hot oil serpentines or gas burning sections of chambers is absorbed from canals through fans and delivered into the spinneret holes and then directed towards the fabric. The volume and speed of hot air passing through spinnerets are adjusted automatically by the invertors that control the fan motors. Furthermore, it is also possible to adjust the volume of hot air passing from lower and upper spinnerets through the spinneret brims.

When the machine stops, hot air is blown on the fabric using an automatic by-pass system. The by-pass system functions automatically using pneumatic pistons based on the starting and stopping of the machine. This process prevents the fabric from burning and turning pale when the machine stops.

Both chambers contain single motor fabric breadth expansion systems. The amount of breadth expansion is measured using proximity sensors located on the motors and these values are displayed on the control monitor. The breadth of the machine can be completely opened. It can also be opened



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independently with 8 cm intervals. Breadth expansion switches are located at the outer part of the machine to avoid any damage from heat exposure. In order to perform fibre cleaning without stopping the machine, each chamber is equipped with tandem type air filters.

EXHAUST CHIMNEYS:

Each chamber is equipped with exhaust chimneys that absorb humid and spoiled air from left and right units in a balanced way. A manual controlled damper system exists at chamber exits. The exhaust chimneys which are custom designed with cylindrical shapes are equipped with cleaning covers. The exhaust motors which are inverter controlled are connected to radial chimney fans and their speed can be adjusted automatically. The exhaust chimneys are also equipped with steamer controlled fire extinguishing system.

EXIT ZONE:

Our machines which are usually manufactured with 3 metre long exit chains have the following properties:

The fabric coming out from the machine in a heated state is cooled down from both bottom and top sides using an air fanned fabric cooler.

The selvedge cutting of starched knitted fabric takes place at the selvedge cutting and selvedge absorbing units located at the exit zone of the machine. These units are imported from abroad. These units have minimum cutting capabilities which reduces fabric waste.

The inverter controlled exit roller is also used for batching.

The plaiting roller motor which has an independent operation capability is controlled by an inverter. Batching process can also be accomplished without plaiting. The machine is also equipped with a touch-screen control panel at the exit zone. From this panel it is possible to control the speed of the machine, exit roller, plaiting roller, and batching roller. Selvedge cutting, absorber and cooling fan can also be controlled from another control panel located at the exit zone of the machine. A telephone circuit allows communication between the operator at the entry zone and the assistant operator at the exit zone of the machine. The exit zone of the machine can be observed on the monitor located at the entry of the machine using a camera.

A.C.C. STENTER TECHNICAL AND TECHNOLOGICAL SPECS:

- Special fabric processing capability
- Low energy consumption
- High steamer capacity
- Fully automatic operation capability using PLC program
- Unique design from A.C.C. Machine
- Ideal anti-shrinking dimensions for polyester, viscose and lycra fabrics
- Fabric processing with 50 % feeding capability
- Automatic fabric flipping capability. Automatic control of the machine based on fabric flipping status (optional)
- Automatic exhaust gas control capability (depending on the humidity level inside the machine)
- Automatic exhaust fan speed control capability (optional)
- Automatic fabric humidity control capability. Automatic control of machine speed based on fabric humidity (optional)
- Fabric weight measurement and control capability (optional)
- Modem Connection (optional)
- Machine failure warning and record capability
- Process report generation capability



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- Non-stop operation capability (optional)
- Custom made machine entry and exit units manufacturing capability (optional)
- Custom made machine manufacturing capability (optional)
- Increased machine lifetime with kiln-dried powder paint
- Increased machine lifetime with the use of galvanized sheet at interior parts of the machine
- With special breadth expansion system, the fabric is prevented from getting dirty while the fabric is attached to the machine.