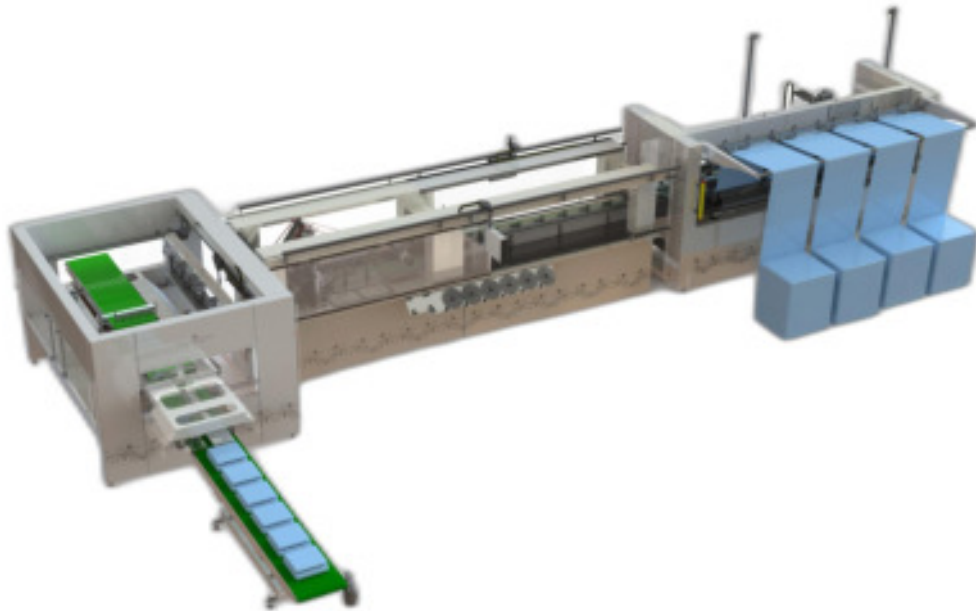


TOWEL LINES



“AURIGA 2600 TOWEL TRAIN”

During the course of more than 30 years in the manufacture of machinery, our premise has always been the quality of our products. We know that perfection does not exist, but we are sure that we strive for it with perseverance and determination.

In the last decade, our evolution has taken us to the technological top at international level, being to date, the first company to manufacture production lines in all the sectors in which we are represented.

Thank you for trusting in our perseverance



CEO - José Ferrando García

DESCRIPTION

Machine for the manufacture of towels in their entirety.

The cut is made to the programmed size, detecting the curl.

Once the garment is cut, it moves to the side seams area where the seams are hemmed with hems of 12 to 50 m/m. on both sides, and the garment is labelled, leaving for the programmed folding. Once folded, it is stacked on a belt with 1 to 10 units per packet.

TECHNICAL CHARACTERISTICS

- STRUCTURE

Formed steel structure. Currently all Jofesa machines are manufactured with structure finished in electrogalvanised and fire-lacquered paint.

- LIGHTING

Lighting with 5050 LED strip lights, with RGB colour change (green, blue and red) throughout the machine, which increases communication between the operator and the machine. Energy saving and environmental protection.

- CONTROL

New OMRON SYSMAC automation platform. Currently all Jofesa machines are installed with this new platform from the smallest to the largest machines with the same controller, which provides the speed, flexibility and scalability necessary for today's industry.

This allows us to expand our machines without the need to change the installation. The controller, based on the new INTEL CPUs, integrates drive, logic, safety and vision all programmed from the same software with 128 axis / 250 μ s cycles.

Our machines have two communication buses:

- Ethercat (Can based on Ethernet): the fastest machine network on the market, with which we connect to all machine devices without the need for complicated wired installations.

- Ethernet-Ip: a very robust and fast industrial Ethernet bus to which the machine's touch terminals are connected, from which all the machine's settings and parameters are controlled and selected, and which we can connect to our customers' network to collect all the necessary information (Industry 4.0).

Each module of the machine has its own control panel, which communicates with the CPU via a single ethercat cable. The servomotors, inputs, outputs, safety, machine vision and all the pneumatics are controlled via this bus.

The sysmac platform also integrates the safety solution, both the safety controller (specific safety CPU) and the safety inputs/outputs are freely distributed throughout the machine, simplifying the installation, as well as the monitoring of the safety status on the touch terminals.

- **MOTORISATION**

The heart of our machines are the Accurax G5 servo systems, the perfect combination of control and mechanics. The control of movements is mainly carried out by servomotors. All the drivers that control the servomotors incorporate, in addition to the Ethercat bus, a safety input in accordance with performance level D of ISO13849-1.

They are controlled by a Motilon Control CPU, allowing us to perform interpolations, Cam tables or electronically connect axes with each other, making the most difficult tasks easy.

In addition, where a servomotor is not necessary and a simple motor is sufficient, this will always be controlled by MX2 series drives, with open-loop torque control, which allows us to control them from speed 0, with safety inputs to disconnect the motors when the safeties are open.

- **DETECTION AND VISION**

Our colour or contrast sensors are also integrated into Sysmac and connected via the Ethercat machine bus, allowing us to program, configure and visualise any photocell from the touch terminals, as well as providing ultra-fast response speeds.

- PNEUMATICS

Pneumatic motion control is also integrated, based on the fully configurable and scalable FESTO-MPAL terminals and connected via the Ethercat machine bus. All solenoid valves can be activated manually from the machine's touch terminals and the actuation times can be adjusted.

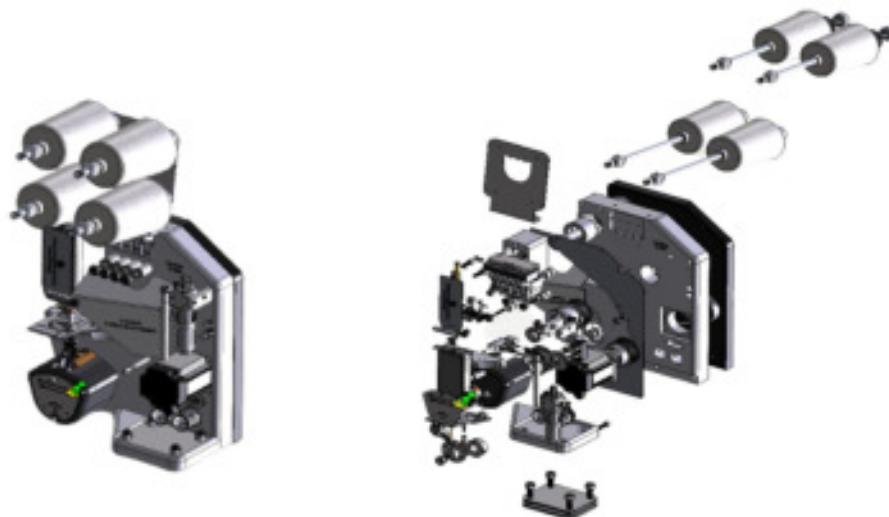
Approximately 90% of the pneumatic actuators are manufactured exclusively for the required actuations, with a patented pneumatic system (COMPAC SYSTEMS) that optimises the space and application of the system, facilitating changeover and maintenance with its own changeover system.

- SOFTWARE MAINTENANCE

All this with a single software from which everything is controlled and which can be accessed via the internet to monitor changes to the programme or maintenance tasks.

- MANUALS AND REGULATIONS

Manuals and CE regulations and a CD with all the components of the machine in three dimensions is included, which allows maintenance and changes to be made, visualising the components without having to dismantle the machine.



- CHAIN STITCH-C-21.5 STITCHING UNITS

- Machine developed by Jofesa Imagine Systems, SLU, with all the necessary requirements for automation.
- Quick connection and head exchange in 3 minutes.
- Repair of any element in no more than 5 minutes
- No oil sump (oil mist lubrication)
- Air cooling of the needle
- Pneumatic foot lifter
- Integrated thread detectors.
- Integrated thread holders.
- Integrated positioning.
- OMRON G5 Servo Motor
- Speed 4000 rpm. 2 chain pins.

- MINI-RI LABELLER

- Labeller developed by JOFESA IMAGINE SYSTEMS, SLU with the capacity to place 3 rolls of labels.
- 1-2-3 label folding programming
- 1-2-3 label cutting programming
- Cut mark detection
- Final detection of labels, etc...

- LONGITUDINAL ALIGNERS D.60

- Pneumatic aligners designed by JOFESA IMAGINE SYSTEMS, SLU, capable of aligning with a precision of + -1 m/m.
- Controlled by control and alarm management.

- COLOUR DETECTORS (Optional 6 Units)

It is responsible for aligning the cut of the garment to a stripe of the pattern across the width of the fabric.

- FABRIC FEEDER

This production line is equipped with a roller feeder which pulls the fabric from the pallet or hanger.

- CROSS SELVEDGES E-6

The cross selvedge trimmer is an important part of the JOFESA IMAGINE SYSTEMS, SLU design system, capable of passing the changes in thickness that exist between the crossing of the cross selvedges with the horizontal ones, leaving a perfect finish.

This edger has internal drive via a servo controlled from the touch screen.

- SYMPHIN SYSTEM CS-1 (cross cut)

An efficient system developed to generate a clean cut.

This system performs the 2600 cut in just 1" and also adds an automatic NON-STOP sharpener.

- AXIS-2600 FOLDING MACHINE

This folder designed by JOFESA IMAGINE SYSTEMS, SLU to adapt to the end of our production lines is capable of making folds in both transverse and longitudinal directions on the garment. The operator can program an infinite number of folds in both directions and fully integrated with the system.

- INTERFACE AND TOUCH SCREEN

Touch screens (2 units per machine) on which the machine is controlled:

- Cutting length
- m/m stitch
- Machine speed
- Selvedge width
- Tucked fabric
- Primary pleats
- Secondary pleats
- Bundle units
- Piece count
- Production per hour
- Consumption level, etc...

- INTERNAL ADJUSTMENTS

Adjustments of sensors, times, speeds, limitations, etc...

- CONFIGURATIONS Activate and deactivate elements such as...

- Fabric detectors
- Yarn detectors.
- Activate and deactivate heads.
- Colour centring devices (if fitted).
- Aligners, etc...

- MOVIMIENTOS MANUALES
 - Avance de tejido, retroceso, subir y bajar rodillos costura.
 - Etiquetado, corte, afilado.
 - Avance cintas.
 - Plegado, etc...

MEASUREMENTS, PRODUCTION AND CONSUMPTION

- WOVEN FEEDER FOR PALLET OR EASEL

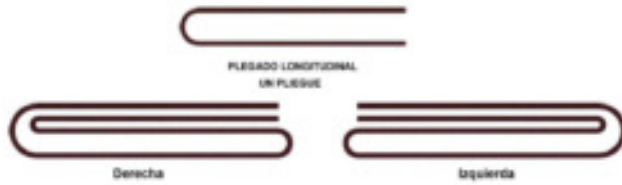


- CS-1" CUTTING SYSTEM
- COLOUR DETECTORS (OPTIONAL 6 Units)
- SIDE SELVEDGE MADE UP WITH CHAIN-STITCH MACHINE 2-1.5 2
Chain stitch needles from 12 m/m. to-50 m/m. (with final condensation)



- LABELLING
 - Pallet width from 15 m/m. up to 30 m/m.
 - Single label length from 50 m/m. up to 110 m/m.
 - Folded label length from 25 m/m to 55 m/m.
 - Number of label rolls: 3 per labeller.

- PROGRAMMABLE LONGITUDINAL FOLDING WITH NUMBER OF FOLDS, DIRECTION AND SIZE.



- PROGRAMMABLE CROSS FOLDING WITH NUMBER OF FOLDS, DIRECTION AND SIZE.



- The NUMBER OF PLIEGUES IS UNLIMITED, the only limitation is the fabric.
- STACKING OF GARMENTS, PROGRAMMABLE FOLDING FROM 1 TO 10 UNITS ON A CONVEYOR BELT.



PRODUCTION AND CONSUMPTION

➤ PRODUCTION

- 5 CLOTHING (300 X 580): 1300 Units/Hour
- 4 CLOTHING (505 X 1010): 900 Units/Hour
- 3 CLOTHING (700 X 1450): 810 Units/Hour
- 2 CLOTHING (1020 X 1530): 560 Units/Hour

- PALETTE WIDTH - 2600 m/m
- CUTTING LENGTH - 2000 m/m
- ELECTRICAL POWER - 3,5 KW
- PNEUMATIC CONSUMPTION - 362 l/m
- VOLTAGE - 220/380 v

PLANS AND DIMENSIONS

