

FERRARO SPA

PRODUCTS CATALOGUE

Your trusted partner in finishing

FERRABIO



• We rely on our tradition to lead the future

• Mission & innovation

PRODUCTS RANGE:

- Compactors for knitted fabrics
 - Comptex Revolution
 - Easy Comptex
 - Calenders

Sanforizing lines for woven fabrics

- OCS
- Comptex RE SK

• Wet Lines

- X-Slit Slitting line
- X-Press Squeezing and padder for f
- Rotoclean Scouring unit
- Rotoflow Washing line
- Complementary Units and Accessories

Printed in June 2019 All information and descriptions in this catalogue are purely indicative and are subject to change at discretion of Ferraro S.p.A.

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		CONTENTS
	04	
	06	
	09	
	10	
	14	
	16	
	20	
	24	
	28	
fabric in tubular form	30	
	32	
	34	
	38	

We rely on our tradition...

We began our journey in 1951 as a small machinery manufacturer in Lonate Pozzolo, a small town near Milan, Italy. Initially we started manufacturing customized products, according to the peculiar needs of the customers. During the 1980s, when the demand for knitted garments increased, we started manufacturing compacting machines to better serve the knitting industry. We then specialized in manufacturing compactors for knitting fabrics. Over the years this kind of machines came to represent the core business of Ferraro, making us one of the world leaders in this sector. In the recent years, following the market trends, we decided to expand our products range to a complete set of machines for finishing.



Nowadays our production embraces:

- COMPACTORS for tubular and open width knitted fabrics;
- CALENDERS for tubular knitted fabrics;
- SANFORIZERS COMPACTORS for woven, knitted and technical fabrics;
- SLITTING and SQUEEZING line;
- SCOURING unit;
- WASHING unit;
- a whole series of COMPLEMENTARY MACHINES, MODULES and SERVICES

...to lead the future

We are visionaries...

We constantly monitor the latest trends to lead the market by using the best technologies available for the textile sector. We have been among the pioneers in Italy in embracing the mindset of **INDUSTRY 4.0**. This gave us the opportunity to define an endless set of technology transformations for all our machines. Specifically, digital technologies applied to industrial production have evolved from a series of separated phases to an integrated flow.

The advantages of the Industry 4.0 applied to all our machines, allowed us to increase:

- Speed of the production flow;
- Quality of the entire production process allowing a real time monitor of it;
- Flexibility for immediate changes required to offer a deep dynamism for a real mass-customization of the production phases;
- Security to prevent issues before they arise instead of fixing them when they will occur;
- Efficiency to increase the productivity with technologies and more intelligent services.



ANY SOLUTIONS FOR INDUSTRY 4.0







INDUSTRIAL PC PANEL

INDUSTRIAL PC BOX

PANEL PC FOR VEHICLES

onitor of it; mism for a real mass-customization

hem when they will occur; nore intelligent services.





TOUCH SCREEN MONITORS



INDUSTRIAL TABLET PC

Mission

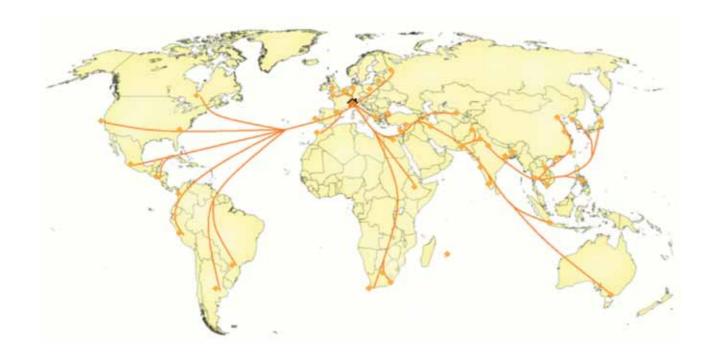
Constant innovation in tradition

Our mission reflects the core values of a constant innovating and engineering-driven company. We produce high value solutions entirely made in Italy by using only top quality components, skills and expertise in every step of our work. Ferraro's company culture embraces the concept of providing the highest level of know-how and commit to transfer it on all our products.

All Ferraro machines and processes respect the environment by prioritizing the low energy impact solutions while providing the highest quality standards.

We deliver the most advanced machines to assure the maximum quality repeatability through a constant innovation of our range and processes.

Our brand is built around a renowned guarantee of quality and customer assistance both in Italy and abroad. This is assured through our extensive network of agents and technicians, to respond promptly and effectively to any request of the customers. We do emphasize the interaction with our customers as marked by professionalism, competence and passion in every single segment of our extended global network.



Innovation

Following a thorough analysis on business processes, safety standards and environmental protection, Ferraro has obtained the certifications ISO 9001: 2015, ISO 14001: 2015 and OHSAS 18001: 2007 by the important Italian accreditation authority Q-AID, becoming the only Italian company in the textile machinery industry to have gained them.

Moreover, Ferraro has been certified as Green Company, as result of the constant commitment to an eco-sustainable industry. This means that all our machines are able to achieve superior quality in finishing while reducing the environmental impact and the consumption of water and energy.





AZIENDA CERTIFICATA ISO 9001:2015 AZIENDA CERTIFICATA ISO 14001:2015











ORGANISMO DI CERTIFICAZIONE AZIENDA CERTIFICATA OHSAS 18001:2007





Our products

- Open Width Compactors
 - Comptex Revolution
 - SK Line
 - OCS

Tubular Compactors

- Easy Comptex
- Calenders

• Wet Lines (Squeezing, Slitting, Washing Units)

- X-Slit
- X-Press
- Rotoclean
- Rotoflow

• Complementary Units and Accessories

- Ferr Trim
- Ferr Spray
- Ferr 10
- Enzyme washer
- Pre-Shrinking unit
- Squeezing padders
- Self-cleaning filters









COMPTEX REVOLUTION

Compacting machine for open width knitted fabrics

EASY COMPTEX

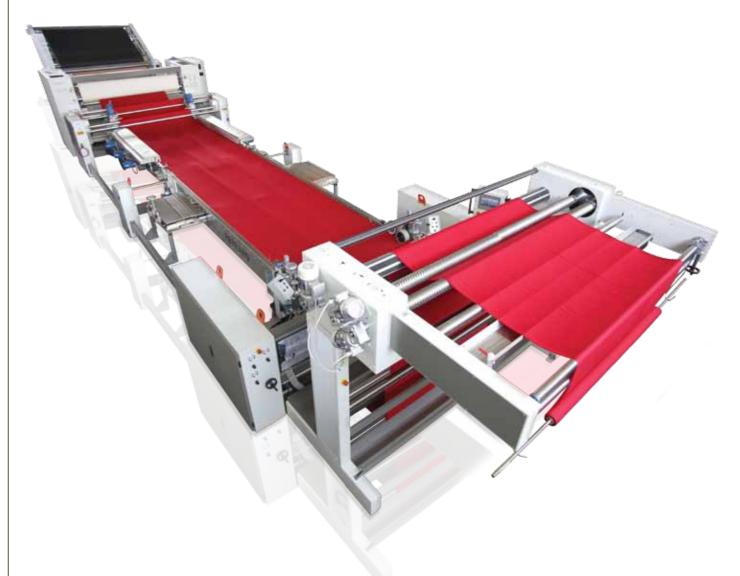
Compacting machine for tubular knitted fabrics



11

Comptex Revolution

Comptex Revolution is an innovative machine in the compaction of the knitted fabrics



Thanks to its particular design it can reach shrinkage values that are not imaginable with traditional machines



Selvedges cutting and suctioning system. This device is studied to reach high cutting speed.



High efficiency drying system for the selvedges. Composed by circulating hot air and infrared resistances.

Working width	Working speed	Installed power	S
1 - 3,2 m	2 - 50 m/min	30,2 Kw	1







Stenter frame entirely made in stainless steel. The conical and parallel fields allow an optimal control of the width all along the machine.

The system is checked and controlled by electronic devices.



The machine is normally provided with a cooling beltat the exit of the compactor, a simple folder unit and a high precision nonstop rolling up device.

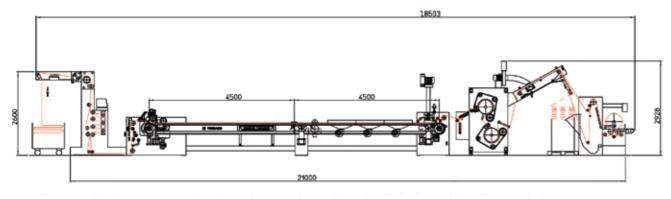
As optional can be added a semi-automatic packaging machine.



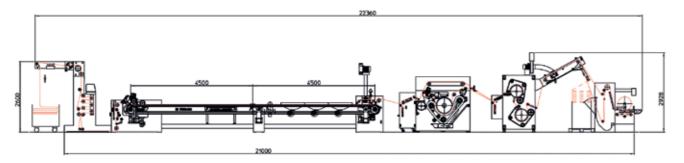
The patented pneumatic system allows to pin the minimum quantity of fabric on the chain.

Steam consumption 120 Kg/h

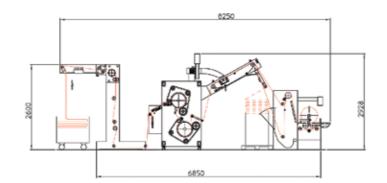
Compressed air consumption 80 NL/min



Comptex RE. Felt compator, 9 meters chain, customizable exit with folder and/or rolling up device



Comptex RE-SK. Felt compator plus rubber sanforizing unit, customizable exit with folder and/or rolling up device



Comptex RA. Felt compaction without chain, customizable exit with folder and/or rolling up device

The above dimensions and compositions are not binding. Other specifications on request.





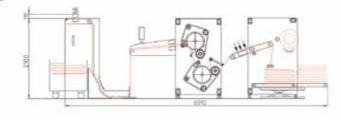
Easy Comptex

Easy Comptex is a unique machine in its genre

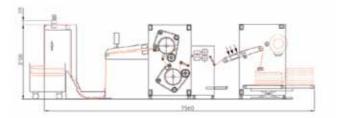




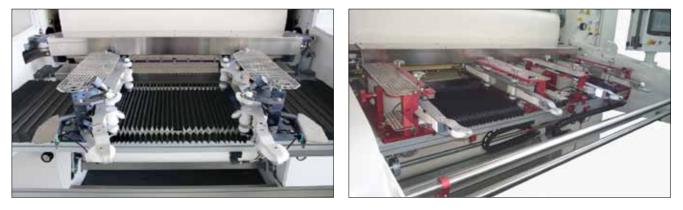
Working width	Working speed	Installed power	Steam consumption	Air consumption
0,22 - 2,5 m	2 - 50 m/min	10,88 Kw	74 Kg/h	62 NL/min



Complete line with precision folder.



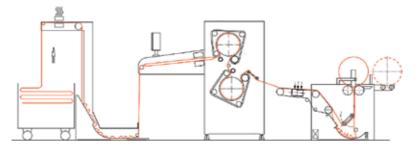
Complete line with polishing cylinders and precision folder.



One of the key features of this machine is the patented magnetic stretcher. This special system allows a soft touch on every kind of fabric.



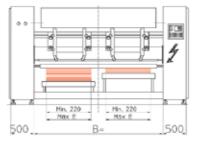
Customizable exits with high precision rolling up unit with automatic discharge of the rolls, or precision folder, worldwide recognized as the most efficient device in its genre.



Complete line with rolling up device.

The machine can also be equipped with a special double fabric feeding system.





Double feeding fabric entry

Calenders

Felt and polishing calenders for tubular knitted fabrics

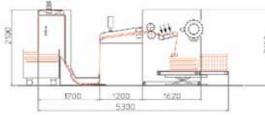
C2E/FV

Polishing calender

 $\ensuremath{\mathsf{C2E/FV}}$ is a polishing calender for tubular knitted fabric.

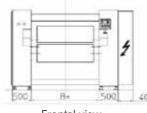
It is used for every kind of knitted fabric. Available in different widths and heating systems.

Exit is in precision folding or precision rolling. Available also with double fabric feeding form.



Complete line with precision folder or rolling up device.





Frontal view

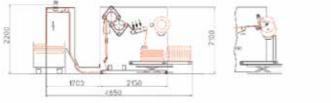
CUD/FV

Felt calender

CUD/FV is a felt calender for tubular knitted fabric. It is used for every kind of knitted fabric. Available in different widths and heating systems.

Exit is in precision folding or precision rolling. Available also with double fabric feeding form.





Complete line with precision folder or rolling up device.

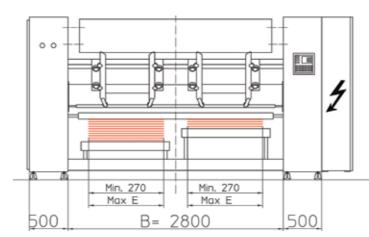


Frontal view



All our machines are provided with user friendly electronic touch screens. They allow to check the status of the machine all along the working process.





Working width	Working speed	Installed power
0,27 - 1,4 m	2 - 50 m/min	7,6 Kw



Ferraro's precision folder, worldwide recognized as the most efficient one.



High precision rolling up unit with automatic discharge of the rolls.



The machine can also be equipped with a special double fabric feeding system.

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Steam consumption 74 Kg/h Air consumption 62 NL/min

Sanforizing lines for woven fabrics



OCS ONE COMPACTING SOLUTION Sanforizing lines for knitted and woven fabrics



COMPTEX RE SK Compacting machine for woven, denim and technical fabrics







OCS **One Comptacting Solution**

OCS represents the most flexible and qualitative solution in the shrinkage for woven and knitted fabrics



The machine is provided with a big steaming cylinder and by-pass belt in order to achieve the maximum in terms of versatility and efficiency.

The unit is able to manage any kind of fabric, from light and delicate viscose to the heaviest denim



The machine can be provided with an adaptable exit; a simple folder which can be used also as a tangential rolling up device, allowing a precise result.



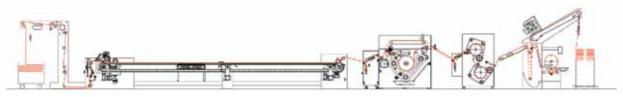
The entrance of the machine can be adapted to work both with knitted and woven fabrics.



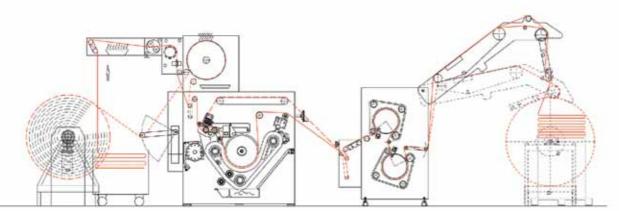




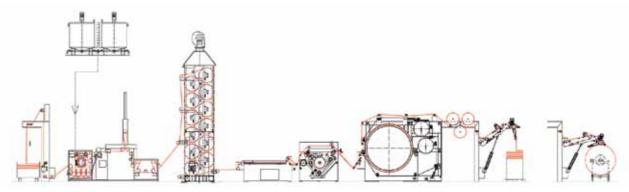
At the exit of the compactor is normally provided, a simple folder unit and a high precision non-stop rolling up device. As optional can be added a semi-automatic packaging machine.



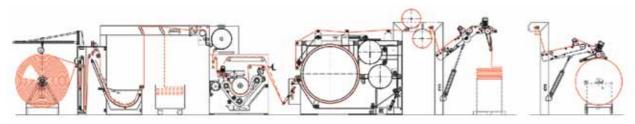
Complete line suitable for knitted fabrics, mostly light, delicate and sensitive such viscose, modal, blended and printed.



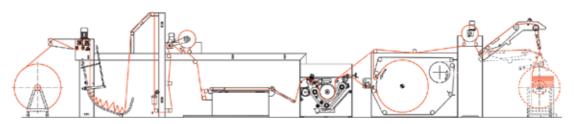
Complete line without equalizer pin chain, suitable for knitted and woven fabrics, mostly light, delicate and sensitive such viscose, modal, blended and printed.



Complete line for denim and heavy woven fabrics, fully integrated with washing tank, skewing module, drum dryer, pin chain equalizer, sanfor unit, big diameter palmer drum, drying cylinders, cooling cylinder and tangential plaiter.



Complete classic line suitable for any woven fabrics, fully equipped with non stop entry by J - box.



unit, big diameter palmer drum, drying cylinders, cooling cylinder and tangential plaiter.

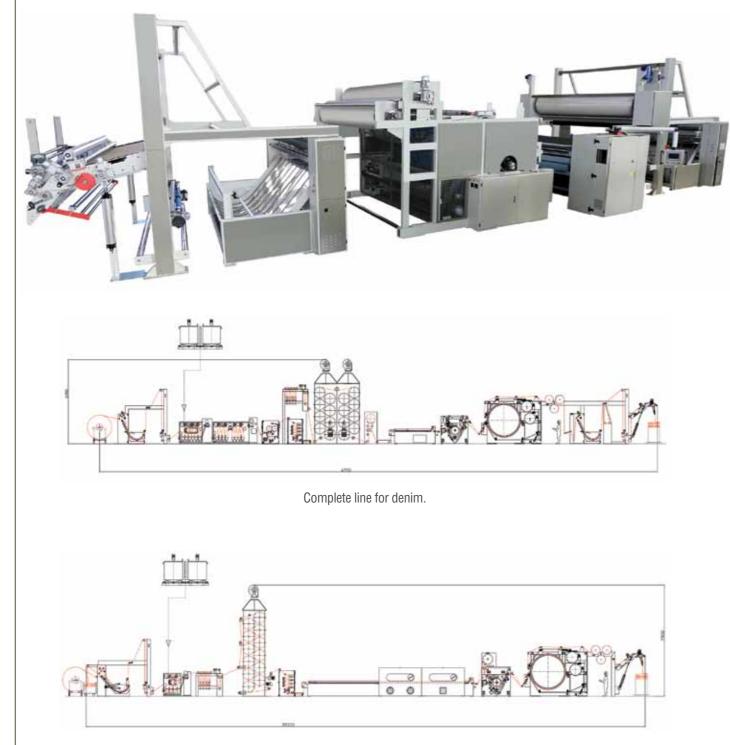


High efficiency line for woven fabrics fully equipped for totally non stop production.

High efficiency line for woven fabrics equipped entry no stop, centring unit, drum steamer, equalizer pin chain, sanfor

Comptex RE SK

Comptex RE SK is the line for woven fabrics which represents the quality and flexibility that distinguishing Ferraro's name



Complete line for technical fabrics.

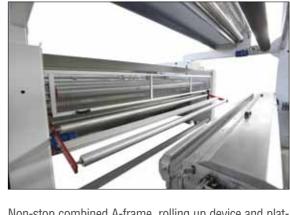
Customizable lines according to specific production request. Technical data are supplied according to specific design

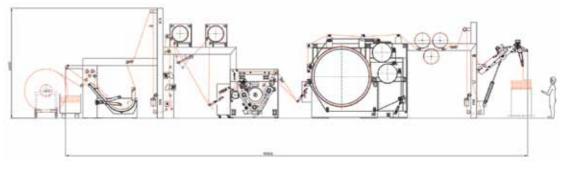




High efficiency compressive shrinking machine with grinding device including cooling water distributor and tensionless synchronization.







Complete line for woven fabrics for shirts, sheets and printed fabrics.

Non-stop combined A-frame, rolling up device and platter with adjustable folding waves.

Wet line



X-SLIT

Modular system for slitting and opening of knitted fabrics



ROTOCLEAN Washing and removal unit forweaving oils and paraffins





Opening, squeezing and chemical application for tubular fabrics



ROTOFLOW Washing unit for printed fabrics

X - Slit

The latest development for fabric slitting

X-SLIT represents our top brand slitting line for opening and squeezing of tubular knitted fabrics coming from the dying process. It is completely made in stainless steel (AISI 304) and studied to satisfy the needs of low-energy impact processes.

It is composed by rope squeezer, detwisting system, manual adjustable opening basket, cutting system with optic detection of the drop stitch, selvedges opening system with double motorized cylinders, double transport rollers covered by rubber, opening and centering system managed by all – width photocell, impregnation tank and squeezing rollers, with adjustable folding system at the exit.

The machine, in all its configurations, can be equipped with our patented residual enzymes washer. More details of this specialmodule can be found at page 43.



Suitable for tubular and open width fabric





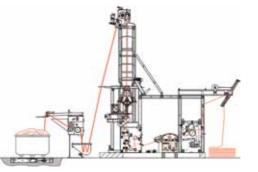
The heart of the machine is represented by its squeezing rollers, covered by special rubber. Squeezing pressure is programmed by the operator through the touch screen.



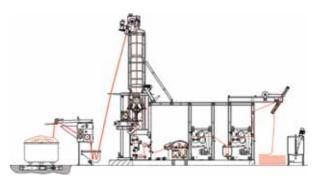


allows an easy and fast pass to avoid mum thickness of 0,55 mm. excessive fabric tensions.

Automatic rope detwister, mounted X-SLIT is provided with a Top Brand cutting system; the device is operated on an automatic latch structure that through an optic technology for the detection of the drop stitch, with a mini-



Complete line with rope squeezer, residual enzymes washer (optional), single padder for dewatering.





The centering system is composed by: double selvedges opening rollers manually adjustable, all width photocell for the continuous detection of fabric's position, dogal cylinder entirely made in stainless steel to ensure high quality and long life.

> Complete line with rope squeezer, residual enzymes washer (optional), double padder for dewatering and addition of softener.

X - Press 2T/4T

Opening, squeezing and chemical application for tubular fabric

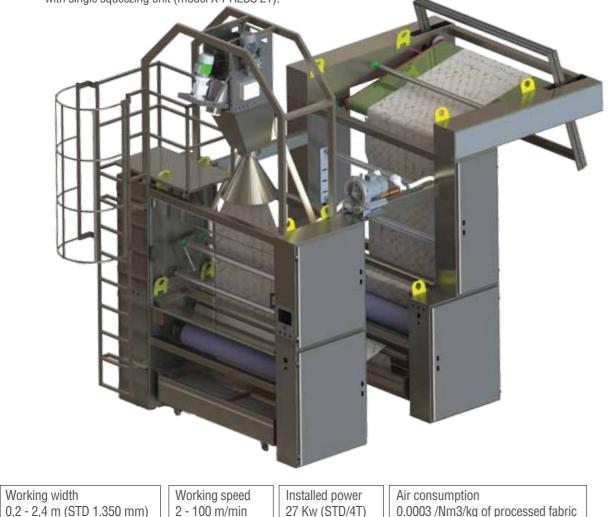
X-PRESS is a rope opening and squeezing line of the tubular knitted fabrics coming from the dyeing process. The machine is completely made in stainless steel (AISI 304), and it has been studied to satisfy the need of low-energy impact processes.

It is composed by a Top Brand detwisting system, ring stretchers with holes detecting sensors, double fabric's transport rollers made by rubber, impregnation tank, air ballooning system, first squeezing unit, relax J-Box in stainless steel, second impregnation tank with air ballooning system and second squeezing unit.

The exit is composed by the patented magnetic stretcher ASTL 2010 and by the adjustable plaiting unit.

The machine is available in two versions:

- with double squeezing unit (model X-PRESS 4T);
- with single squeezing unit (model X-PRESS 2T).





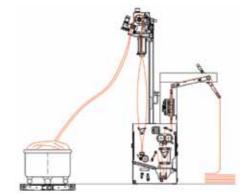


The automatic rope detwister, allows an easy and fast pass to avoid excessive tensions in the fabric.

The 4T version comes with a J-BOX between squeezing and impregnation foulards. The system includes a tension control system with an automatic compensation roller.



through the touch screen.



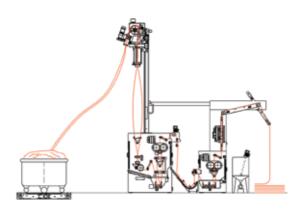
Complete line with single squeezing unit (model X-PRESS 2T)





The exit system composed by the patented magnetic stretcher to control fabric's width and adjustable folder. The stretcher allows to minimize the tensions of the fabric by overfeeding it.

The heart of the machine is represented by its squeezing rollers, covered by special rubber. Squeezing pressure is programmed by the operator



Complete line with double squeezing unit (model X-PRESS 4T) and addition of softener.

Rotoclean

The most advanced, internationally patented scouring system for weaving oil removal

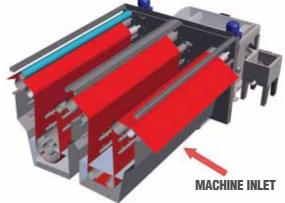


The special Ferraro's patented technology applied to ROTOCLEAN working process allows to reduce considerably the emission of harmful fumes typical of the drying process, effectively eliminating the problem of fume reduction.

In fact, among all, the main feature of the machine is its ENVIRONMENTAL COMPATIBILITY. Completely made in stainless steel AISI 316L, it has been studied to satisfy the needs of low-energy impact processes.



A patented system composed by pressurized spraying tubes, with a motorized system, is constantly rotating at a controlled speed allowing a high water exchange and an intensive washing of the fabric surface to remove all impurities, weaving oils and/or paraffins from it.

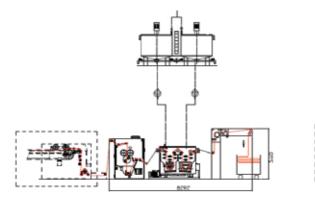


It treats any fabrics containing elastomer, polyester, nylon and removes the paraffin/wax used in the yarn dyed fabric weaving



Double filtering system for the oil removal composed by a porated rotating disk with scratcher blades and a oil-water separator.

Working width 0,22 - 3,4 m	Working speed 2 - 100 m/min	Dimensions (mr D.1.635 x W.4.73		Installed power 8 Kw	r	Air consumption 20 Nm3/min
Steam consumptionSpray system flow315 Kg/h100-200 l/m adjusta			Service tanks of 600 lts each	capacity (nr 2):		/ashing tanks capacity: st 250 It - 2nd 150 It



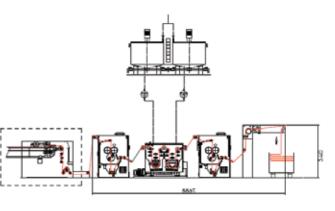
Complete line with single padder (provided by customer) configuration.



Each washing tank is connected to the special non-stop filter to perform a total purification of the water used in the washing process.

This allows a perfect water interchange and recycle, to reduce drastically the supply of fresh water needed.

Further information to be found at page 47 of this catalogue.



Complete line with double padder (provided by customer) configuration.

Rotoflow

Washing unit for printed fabrics

ROTOFLOW is the innovative after printing and after dyeing non-stop washing machine for fabric in open-width and/ or rope form developed to satisfy the needs of low-energy impact processes as well as assuring a long durability.

Entirely made in stainless steel AISI 316L, each unit of the machine is divided into two distinct sections, each one with a capacity of 250 liters, equipped with level probes, and heated by indirect Stainless Steel steam coils, with the temperature is automatically controlled. At the inlet of the first section is located an expanding cylinder to allow the proper fabric feeding and opening avoiding curling problem. The first tank is for an intensive removal of impurities. The second is for rinsing. A dedicated PLC control system allows the maximum flexibility to control the bath pressure and the fabric contact speed with the spraving tubes.

The peculiarity of Rotoflow is the internationally patented system composed by multiple motorized pressurized spraying tubes located on both sides of the fabric, constantly rotating at a controlled speed allowing a high water exchange and an intensive washing of the fabric surface to remove all printing residues from it. Each washing section is equipped with a special high-efficiency self-cleaning filter whose job is to filter the water and purify it in order to allow its continuous reuse in the process baths.

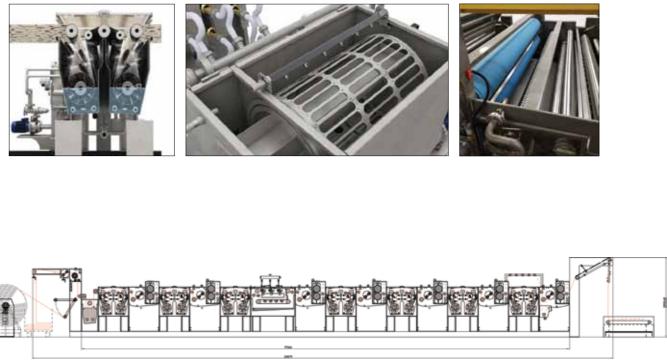
The special Ferraro's patented technology applied to Rotoflow working process allows to reduce considerably the consumption of water and consequently the usage of chemical products with a lower impact on the environment while not compromising in achieving prime and optimum results.

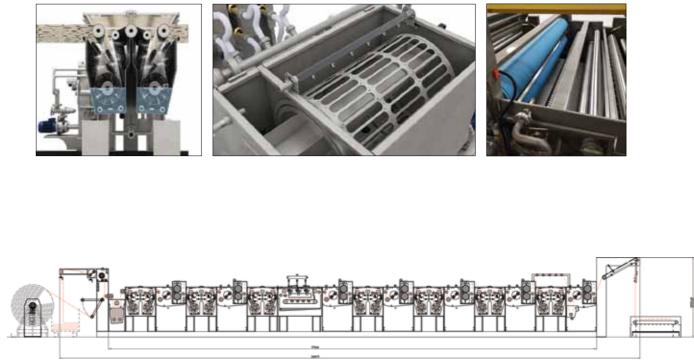


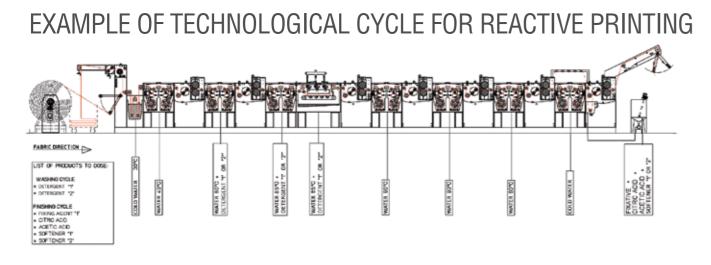
A patented system with pressurized spraying tubes and amotorized system, is constantly rotating at a controlled speed allowing a high water exchange and an intensive washing of the fabric surface to remove all printing residues from it.

Each washing section is equipped with a high-efficiency self-cleaning filter which allows a continuous reuse of the process baths.

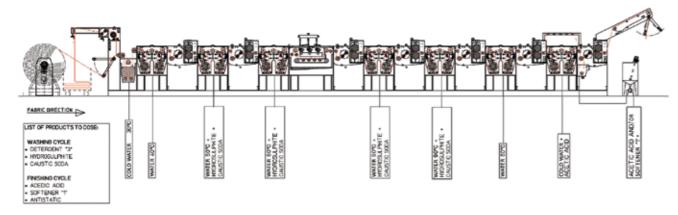








EXAMPLE OF TECHNOLOGICAL CYCLE FOR DISPERSE PRINTING



EXAMPLE OF TECHNOLOGICAL CYCLE FOR ACID PRINTING LIST OF PRODUCTS TO DOSE FOR "SLK" WASHIND CYCLE DETERDENT ** WARR 50°C -DETERGENT +P WMTER 50°C + WATER SOLC + WATER 50°C + DETERGENT T FINISHING CYCLE LIST OF PRODUCTS DOSE FOR 'POLYAMD WASHING CYCLE DETERDENT ACETIC ACID





Complementary units & accessories



FERR TRIM Edge cutting unit



FERR 10 Stainless steel centering unit









PRE-SHRINKING UNIT

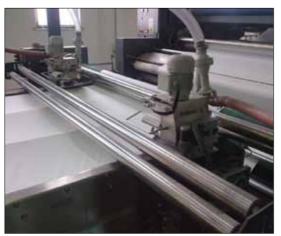


Ferr Trim

Precision web cutting system

FERR TRIM is a trimming unitfor selvedges cutting, suitable for open width compacting machines and stenter/equalizer.

A reliable and efficient cutting technology is ensuring precise cutting results.



Details of the FERR TRIM module on theopen width compacting machine





Precision cutting disk

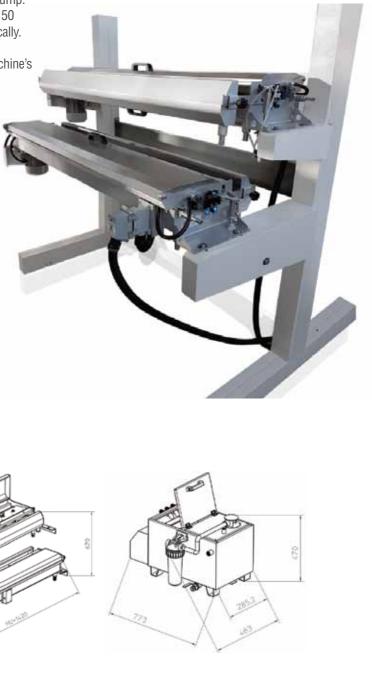
Ferr Spray

Chemical and water application system

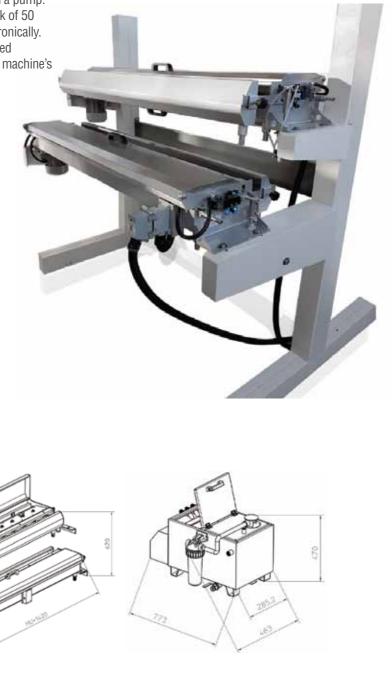
FERR SPRAY This system is used to increase weight, touch quality of the fabric and control the humidity of the fabric before the shrinking process.

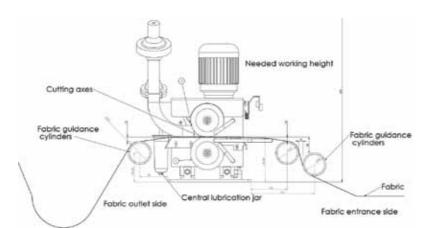
It is composed by:

- Discs for water spraying on the fabric made through a pump.
- The water is coming from a stainless steel water tank of 50 • liters and the quantity is continuously checked electronically.
- Water spraying is adjusted according machine's speed
- A touch screen panel allows to check and control all machine's data and parameters









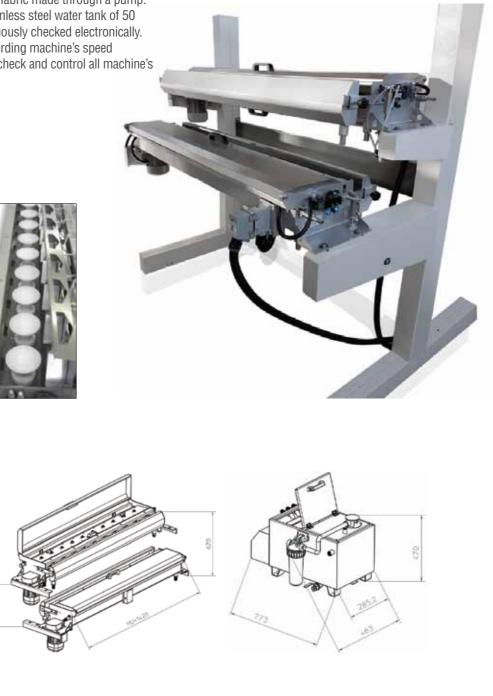
Edge cutter

Web speed max 60 m/min	Weight 34,5 Kg	Motor power 0,37 Kw	Class of safety IP 54
Cutting disk diameter 120 mm		oltage 30-420 50 Hz / 44	10/480 60 Hz

Suction unit

Motor speed	Weight		Motor power	Class of safety
2920-3515 /min	32,5 Kg		3 - 3,5 Kw	IP 54
Flow rate 304 m3/h - 366 m3/h			age -420 50 Hz / 440	

Working speed 2<100 mt/min	
Installed power 0,37 x 2 Kw + 0,25 pump	a in
Working width 0,80 < 3,2 mt	
Air consumption 20 /NI/min	
0,37 x 2 Kw + 0,25 pump Working width 0,80 < 3,2 mt Air consumption	



Ferr 10

Stainless steel centering unit

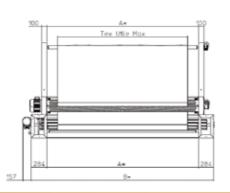
FERR 10 is an expanding and centering unit composed by two stainless steel motorized spiral cylinders, with the possibility to change the tangency on the fabric through a hand wheel and a slat expanding group.

The electronic control of the unit allows very precise movements, having a perfect centering also thanks to the led reading unit with a resolution of 10 mm. This module is fitted with an auto calibration to calculate the exact centering position as well as the possibility to set an offset compared to the normal working position.

The electronic control allows the operator to switch automatic or manual mode.



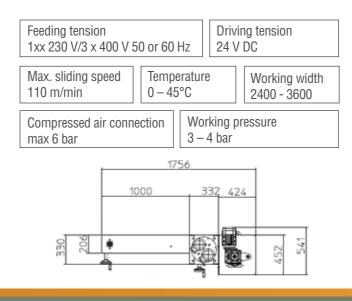




The unit is composed as follow:

SLAT CENTERING MODULE suitable for knitted and woven fabrics; segmental adjusting cylinder; no. 10 slats; covering for dry or wet fabric (upon request); PVC

- EXPANDING DEVICE no. 2 stainless steel expanding cylinders; rotating direction of the expanding cylinders; manual correction of the winding angle;
- two motors
- BRAKE ON ENTRY SIDE no. 2 steel bars for the assembly on the expanding device; fabric brake; handle for the movement
- 1.1 kVA MOTOR FOR SLAT CENTERING DEVICE
- SENSOR ON THE ENTIRE WIDTH



Enzyme washer

Enzyme residues washing system

The **ENZYMES WASHING UNIT** is an optional tank to remove the impurities left on the fabric by the enzymatic dyeing process.

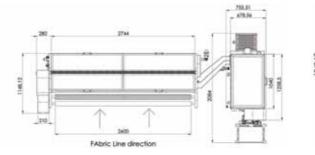
The unit, completely made in stainless steel, is designed with two separated sections.

Both equipped with spray units to improve the fabric cleaning. In the first section, most of the wastage is removed and by overflow, the same is directed outside to an automatic self-cleaning filter.

The whole process is managed by a high pressure pump that recycles the clean water collected after water filter cleaning treatment.

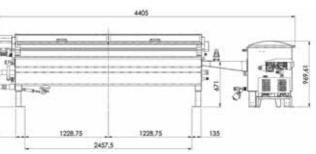
The special filter is equipped with independent motor and high pressure sprays to constantly clean the very fine net installed on it to guarantee the best cleaning.











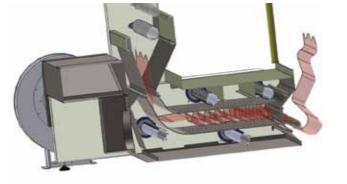
Pre-shrinking unit

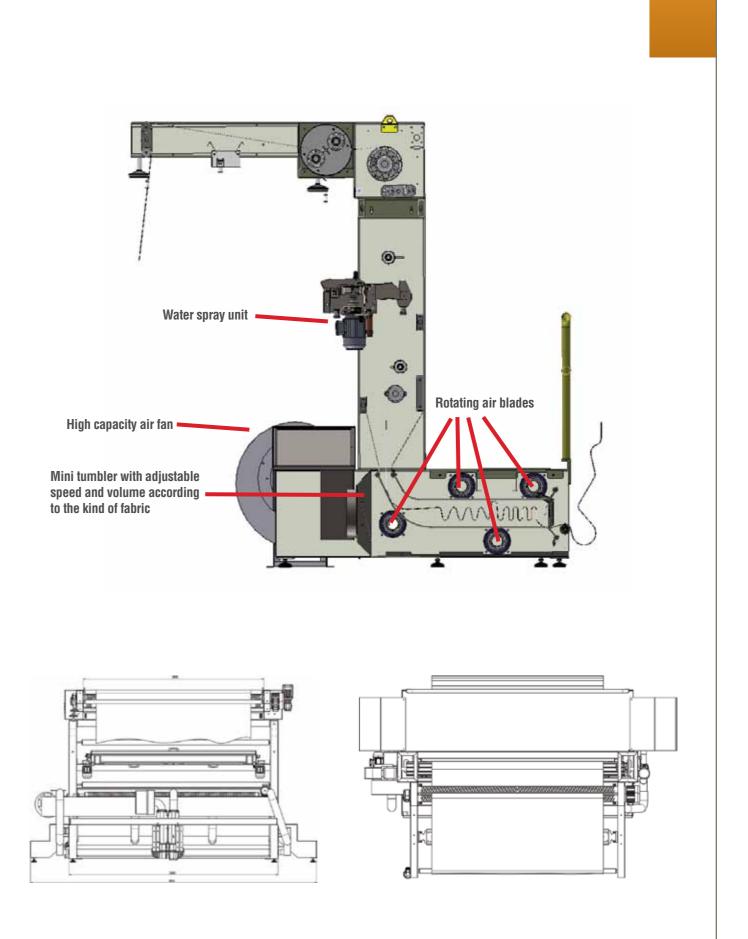
The **PRE-SHRINKING UNIT** is modular unit study and developed toapply a percentage of pre shrinkage to the fabric in order to:

- Achieve better final values without any oppressive mechanical actionapplied to the fabric;
- Add to the fabric supplemental swelling to provide a much better hand feeling;
- Increase production speed of the line which results in more productivity.
- This device is installed on existing machines, with a simple machine upgradeof the existing lines without a structural alteration or compromisings.









Squeezing padders

For water extraction, moisture equalization and impregnation of the fabric with chemical treatment

Ferraro's special **SQUEEZING PADDERS** are composed by:

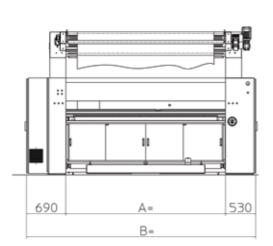
- Two 270 mm. diameter steel cylinders
- Special 94 shore hardness rubber
- Lowest residual moisture
- Impregnation tank fully equipped
- Loadcell tension control system
- 100% stainless steel AISI 304 or 316
- Stainless steel spreading unit

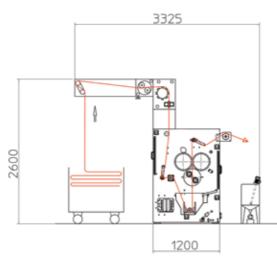






- Stainless steel entry unit
- Adjustable tensioning bar
- Stainless steel spreading unit with adjustable angle opening without tension
- Stainless steel centering unit with slats allowing perfect fabric
- Impregnation padder available for chemical application with different rubber hardness 82/85 shore





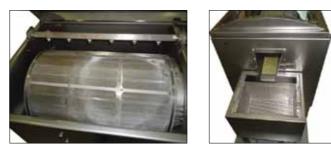
Self-cleaning filters

The special Ferraro's **SELF-CLEANING FILTERS** are a unique and special feature of the latest internationally patented machines, **ROTOFLOW** & **ROTOCLEAN**. The self-cleaning filter technology is present in both tanks (washing and rinsing) part of the individual sections of the machine.

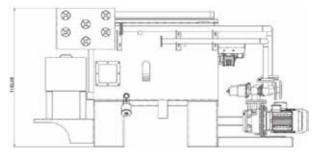
The tanks are fully equipped with pumps to recirculate the bath at a proper pressure.

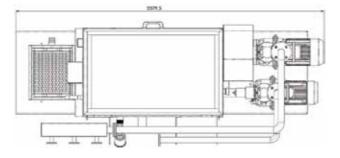
The unit is designed with side disks equipped with S.S. fine nets with cleaning high pressure nozzles.

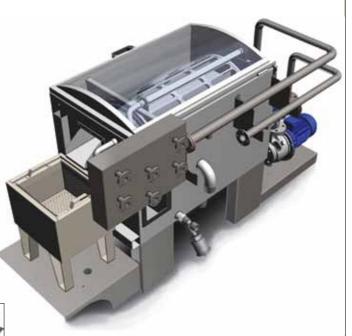
A scraper rotating at slow speed removes continuously the sludge left inside the filter to ensure the maximum efficiency in the cleaning process.

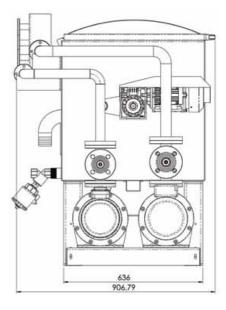


In between the above net disks, on the bottom, a perforated steel sheet allows a perfect drainage of the filtered water.





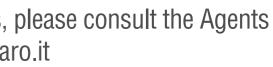




Our agents



For more information and details, please consult the Agents section on our website www.ferraro.it





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