ENAIRGY XSTREAM

Offer # 240805_XSH
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Hanoi Textile & Garment JSC

HANOSIMEX

VIETNAM

Continuous tumbler for terry towel drying and softening in open width form

TURN YOUR ENAIRGY ON !

COMPANY

PENTEK Textile Machinery designs, manufactures, sells and services textile equipment and technologies in the preparation and finishing segments. Pentek design and production philosophy focus on innovation and export since the very first steps. Following stringent manufacturing standards, entirely carried out in Italy at Pentek's newly established plant, the proposed textile technology offers totally innovative solutions and services capable of competing at the highest level on international markets.

Pentek is a world leader for innovative technologies in the preparation and finishing sector in specific segments: continuous tumblers in various configurations, as well as continuous rope washing ranges. Our products are characterized by a high degree of innovation and all the machines are protected by registered international patents.

Well aware that a stable growth occurs only through the aggregation of knowledge and consolidation of processes, Pentek has embarked on an agglomeration path of key figures in the sector, drivers of innovation always in a context of open dialogue and partnership with our suppliers: what we call the **K-factor**.

The key to the future is sustainable development and service, understood as proximity to our valuable Customers and Suppliers, in synergy and with the relocation of services wherever the logic of the market requires it. We have developed local start-up and service centers with direct international presence and with remote assistance. A centralized service management model, complete with training and monitoring, has been deployed to serve our partners in various areas of the world.

TECHNICAL DESCRIPTION

Why Enairgy ?

EnAIRgy is a specialty finishing machine for value added goods: it's the ideal tool for those who mean to improve the product market positioning conferring softness, bulkiness and volume, drapery, shrinkage and changes of visual impact.

The range of finishing effects provided by ENAIRGY is comparable to the general range of effects produced by rotary drum tumblers, though in a continuous and open width process.

Choosing EnAIRgy means deciding to escape from the pure "commodity" segment, from the price battle dynamics, in order to achieve a unique and distinguished product positioning, without necessarily re-designing the product from yarn to weave and dyeing, eventually changing its look and feel perceptions.

The secret of EnAIRgy is the combination of an alternated discontinuous motion within a continuous process: while inside the machine the stored fabric keeps impacting at a high speed in a back and forth motion, at the machine's inlet and outlet the fabric enters and exits continuously without any pause. This is possible thanks to the difference between the lower speed at inlet / exit (mechanically adjustable from 3 to 50 mt/min) and the very high speed which determines the internal back and forth motion.


Denim & Workwear


Terry Towel /Home Textiles


Womenswear & printing


Shirting & linen


Wool & blends

APPLICATIONS

EnAIRgy is energy of the air and its action gets its maximum creative content in the final finishing step, just before inspection and packing. The dyed goods, printed or coated, are thrown by the air pressure against a stainless-steel grid in a variable speed on all working width, reproducing in an industrial way that ancient activity of massage and beating of the fabrics on the river rocks. ENAIRGY can work on dry goods – thanks to its powerful mechanical action – or on fabrics previously padded with chemicals or simply steamed with free steam to increase the spectrum of effects.

- **Home textiles**: terry towels, upholstery jacquards, chenille, automotive goods, curtains
- **Stretch Denim & Workwear**: power stretch stability, max stretch, velvets, corduroy and coatings
- **Womenswear**: printed silky goods, tencel, viscose crepes, polyester blends
- **Shirting & Linen**: Yarn dyed and piece dyed shirting, linen and blends
- **Wool and blends**: Worsted and woolen blends

ENAIRGY XSTREAM

Process Logic

The secret of EnAirgy is the combination of an alternated discontinuous motion within a continuous process: while in fact inside the machine the stored goods keep smashing at high speed in a back and forth motion, externally the fabric enters and exits continuously without any pause. This is possible thanks to a low speed entering and exiting the equipment (mechanically adjustable from 3 to 50 mt/min) and to a very high speed in the internal back and forth motion (pneumatically produced by the air pressure and adjustable till 2500 mt/min).

Fabrics are fed into the machine and deposited on the accumulation scray, which acts as fabric storage for the process. Fabrics run through a shooting tunnel, which connects the inlet and outlet storage cells. High-pressurized airflows, generated by special blowers, enter the tunnel from both the top and the bottom inlet points, discharging the energy on the fabric and throwing it against the contrast grids positioned orthogonally on both sides of the tunnel. A mechanical damper drives the air alternatively left and right determining the characteristic alternated motion of the fabrics which ensures a high number of smashing against the grids, thus achieving the unique soft and bulky effect.

Entry

Inlet frame with braking and tensioning rods at adjustable position.
Inlet traction provided by two motorized rollers of wide diameter and idle tensioning roller. The two motorized rollers are covered by anti-sliding silicon tape. Fabric introduction duct in stainless steel.

Storage cells

Steel painted structure with insulating materials to prevent heat dispersion.
12 cm thickness insulated doors with inspection windows with tempered glass.
Accumulation J-box composed of stainless-steel structure and teflon sliding to ensure thermal insulation of the fabrics and proper sliding in the j-scray.
Load cells determine the fabric weight in the j-scray. Smashing grids entirely manufactured in stainless steel. A mechanic device enables to change the grid position with a scaled system and consequently the impacting angle of the fabric.

Shooting tunnel

Shooting tunnel inlet in calandered and polished stainless steel to avoid improper frictions.
5,6 mt length shooting tunnel, with thermal insulation to avoid heat dispersion. The internal continuous pressure of the air prevents the accumulation of any dirtiness, fluffs and potential fabric color contamination or stains.
Air inlet blowers with internal deflectors for a uniform distribution of the air flow. Mechanical valves, pneumatically actuated, will determine the airflow inversion.

Air thrust & heating

Air heating (800 kW installed) by thermal oil heat-exchanger. Maximum air temperature 150°C. High-pressure air blowers with powerful motors (75 kW + 18 kW), inverter controlled and adjustable from control panel. The set pressure determines the speed of the fabric inside the machine. Exhaust fan (45 kw) inverter controlled and adjustable from control panel.

Twin Blow system

Airflow emission is generated by two separated fans of different design (both of them inverter driven) so to determine independently the relationship between volume and pressure, eliminating frictions and favoring a gentle drying action by the formation of an air cushion or a more aggressive mechanical action (= crushing) against the impact grids.

Relax & crash (International Patent)

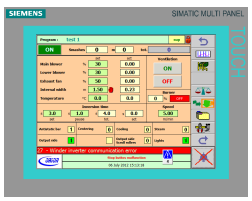
The fabric can be kept floating inside the shooting tunnel, between one crush and another, for a preset number of seconds directly from the operating panel. The system allows the operator to separate tumbling and drying actions, thus allowing the machine to be run from a pure Tumbler to a pure Dryer, with full flexibility between the two. The RELAX & CRASH system (International Patent) helps to reduce to a minimum level warp-wise pulling of the fabric during the fabric back and forth motion.

Filtering system

Filter & compactor placed on the air extraction circuit, right before the exhaust fan. The filter is composed of a wide diameter automatic rotary mesh filter and with a silicon scraper, which removes the lint and drive it – through a never-ending screw – to an external bag for compacted lint collection for easy removal.

Exit

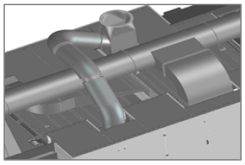
Stainless steel duct protecting the way out of the goods from air turbulences.
Motorized Scroll rollers kit in stainless steel with various profiles (according to the fabric types) and manually adjustable on a 360° angle;
Motorized slats centering device with high adherence rubber profile. The centering action is pneumatically driven and controlled by IR photoelectric sensor. Electrical anti-static bar placed before exit. Exit available with: flat folding device, lockable flat folding device, tangential batcher, axial batcher and combination with flat folding + batcher.



Cabinet and controls

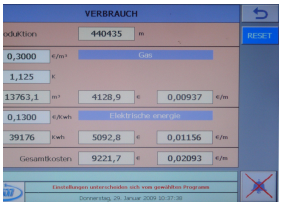
The electrical cabinet is placed adjacent to the fabric inlet and is built to IP54 standards, following a PLC and control panel touch screen by SIEMENS enables to run the machine both in manual and automatic modes. The operator can edit, store, retrieve and modify an almost unlimited number of recipes with all the operating parameters of the equipment.
Historical memory of alarms with explanation and diagnostic;
Memory of all last week processes with graphics of all main parameters (temperature, air blow, operating speed, etc…)
Controls of all basic and optional equipment (scroll rollers, centering device, flat folding device, axial winder, fabric steamer, etc…)
Software available in following languages: Italian, French, German, English, Spanish, Portuguese, Turkish, Chinese, Japanese, Dutch, Arabic.

OPTIONAL EXTRAS



Filtered air heat recovery system

Targeting further energy saving, the machine can be equipped with a system for partially redirecting the filtered and exhausted air towards the gas burning chamber. Recommended for gas burner setup. The percentage of recirculated air can be set by the operator at 3 different steps.



Electricity consumption monitoring kit

Machine can be equipped with an additional module of PLC reads the electrical consumptions from the inverter driven motors. These data, combined with the meter counter on the entry of the machine, allow to display the cost per meter in real time.

SALES TERMS

Continuous Tumbler — € 385.000,00

Mod. ENAIRGY XSTREAM 2600 x 2400

- Entry frame with braking rods and double drag roller;
- N.2 fabric accumulation chambers of large profile;
- All the storage cells and shooting tunnel with 14 cm rock-wool insulation;
- Shooting tunnel of 5.600mm length;
- Twin blow airflow injection system;
- Relax & Crash® system (International Patent);
- Auto cleaning rotary mesh filter + compactor;
- Airflow heating through steam heat exchanger;
- Exit with scroll rollers, slat centering and flat folder;
- Antistatic device;
- Tele-assistance via internet;
- SIEMENS touch screen & electrical cabinet;
- Double air conditioning unit;
- Standard spare parts;

OPTIONAL EXTRAS

a)	Filtered air heat recovery system	€	5.500,00
e)	Electricity consumption monitoring kit	€	1.250,00

Service Pack — € 16.000,00

- Sea-worthy packing on wooden pallets;
- CIF Haiphong port delivery in Vietnam (Incoterm 2022)
- Set up & Commissioning (15 days)
  (board & lodging and local transportation at Buyer's charge)
- Technological service (7 days)
  (board & lodging and local transportation at Buyer's charge)

DELIVERY:	CIF terms, within 150 days from L/C issuing date
TRANSPORT:	Through 3 (three) x 40' HC containers, at Seller's charge
PAYMENT TERMS:	100% by Irrevocable L/C at sight, paid against shipping documents, with a a minimum validity of minimum 21 days from the latest shipping date.

SELLER'S APPROVAL

PENTEK TEXTILE MACHINERY SRL - Andrea Prologo

TECHNICAL SHEET

ENAIRGY XSTREAM

Roller Width:	2600 mm
Maximum Working Width:	2400 mm
Maximum Evaporation Capacity:	600 kg/h H_2O
Production Speed:	3-50 mt/min
Heating system:	Steam
Maximum Installed Thermal Power:	800 kw –700,000 Kcal/h
Maximum Temperature of the Air:	150°C
Average steam consumption:	900 kg/h
Steam pressure:	8-10 bar
Compressed Air line:	½"
Compressed Air Feeding Pressure:	6 bar
Installed Power:	145 Kw
Absorbed electrical power:	**85 kWh**
Electrical Line:	V 400, tri-phase, Hz 50
Sizes:	4452 mm x 12074 mm x 3900 mm
Weight:	16.000 kg
RAL colors:	1012 + 1013

ATTACHMENT

Top and side view with overall dimensions. The a/m technical specifications and related technical drawings are subject to modifications and changes in line with the new developments introduced. Copies are prohibited without previous agreement of the manufacturer.

EC DOCS

EC Stamp and Certification of the whole line. Machine is in conformity with all norms related to Directive 2006/42/EC Machinery Directive, and directive 2004/108/EC on Electromagnetic Compatibility (EMC).
The operator's Manual is available in the following languages: Italian, English, French and Chinese.
Machine software available in Italian, English, French, German, Turkish, Spanish, Dutch, Polish, Portuguese, Russian, Chinese, Arabic etc.… Other required languages should be stipulated in the commercial terms.

Project Approval

Stefano Sanchini
Technical Director

Erection & Start up

Price includes erection and supervision of installation, which will be carried out and coordinated by Pentek personnel. Set up and commissioning normally lasts 15 working days. In order to guarantee this time schedule, the Purchaser should provide the following personnel:

Erection	Start up
2 expert mechanics	2 electricians
1 helper and forklift driver	2 expert operators

Purchaser is also required to supply means for packages logistics and lifting (5 tons forklift), and related authorized personnel to handle that and all necessary tools required by our technician.

In case the installation will last more than expected due to delays and interruptions not directly inherent to our supply (for instance, problems or delay in line connections, lack of supporting personnel, etc…), the Purchaser will be held responsible for the delay.

Before the arrival of our technician, the Purchaser shall provide written confirmation confirming that the utilities connection should be by the machine and ready for connection.

Set up and e commissioning of the equipment will be terminated with the positive test mechanical and electrical of the supply till a maximum of 48h after installation with or without fabric production. Set up and supply's commissioning report should be signed by both parties.

Scope of the Supply

The scope of the supply is specified in the current quotation; if not otherwise specified, the following supplies and services should be provided by the Purchaser:

Erection & Commissioning

- Local transportation from/to hotel and from/to airport;
- Board & Lodging;

Utilities Connections

Complete electrical line complete with cable and protection fuses till the electrical cabinet of the machine. Cabinet includes a powerful air conditioning system; PENTEK will not be responsible of the duration and warranty of electrical components should the environment suffer over 45°C temperature and 90% humidity. In case the line whose instability overcomes the ± 5% the Purchaser should install a stabilizer to protect the system from risks of overvoltage, disturbs or energy picks.

Foundations, pits, drains and any type of masonry jobs;

Thermal oil line for all the connection indicated in the installation drawings, including all necessary components, such as valves, pressure reducers and condense dischargers.

Compressed air line till the connection point of the machine, including valves, reducers and condensation dischargers.

Extraction stuck from the machine to roof and from hood aspiration to roof in case of intensive steaming device on entry

Warranty

A. Warranty Period

The warranty period begins from the Start up Report date. Set up operations executed by the customer prior to the arrival of the Pentek's technician automatically implies the warranty expiration if not previously authorized in writing by Pentek.

The warranty period is:

Twelve months (12) for mechanical parts; not to exceed 15 months from the delivery date;

Twelve months (12) for the electrical and electro-pneumatic parts and for the heating equipment; not to exceed 15 months from the delivery date.

At the end of the warranty period, any pending request of service – notified in writing before the expiration of the warranty itself – automatically brings to an extension for the time needed to complete the service operations. Any verbal request of service will not ensure any extension of the warranty period.

B. Conditions

To take advantage of the warranty, the Buyer should immediately notify Pentek regarding any possible failure. The Buyer is required to cooperate from his location with Pentek to determine the nature and extent of the problem and consequently the opportunity and modes of a possible intervention. Warranty does not cover any damage caused by the disrespect of the specification provided by Pentek for the machine line connections, or due to improper use of the equipment by the Buyer. No other warranty – nor implicit or explicit – are valid beyond the present terms. Any information related to the production and/or processing advantages will be considered as indicative data and will not be obliging as implicit commitment. Possible economic damages due to lack of production or machine down time will not be reimbursed.

1. Materials

Warranty covers the replacements of defective materials (shipment covered by Pentek and customs duties at Buyer's cost). The Buyer must return to Pentek all the replaced material within 30 days in a case-by-case mode to be agreed upon between Buyer and Pentek. The lack of return of the damaged part – when required – will automatically cause the issuing of the invoice for the supplied component.

Tear and wear materials are excluded from the warranty terms.

All the components, parts or services installed upon specific request of the Buyer will follow the warranty terms of the specific supplier.

2. Interventions

In case of need of intervention, Pentek will adopt a top priority procedure within the logistic and resource availability. Pentek will cover intervention costs only in case of defects unequivocally due to a factory defect. The Buyer should only cover the board and lodging expenses. Should be detected a specific cause not related to manufacturing, Pentek will reserve the right of debiting the borne expenses

Contract Norms

Payment Terms

After 60 days, Pentek reserves the right to delete the contract should the Buyer disrespect the payments terms agreed upon. The equipment supplied will be Pentek's property until the full payment of the machine according to the order Confirmation.

Responsibilities

Any removal or modification on the safeties, besides implying the warranty to decade, will relieve Pentek from product liability and penal liability for possible damage or harm to people and objects. Pentek is not responsible for claims or damages due to not compliance of the Buyer, of technical norms internationally accepted and of law and regulation prescriptions issued by a local Government or State. It's expressly agreed that the Buyer has no right to be reimbursed for damages on parts not included in this contract, including the profit or production losses. Pentek's responsibility does not apply to defect and damages caused by project modifications required by the Buyer.