

ATMAX

TOTAL SOLUTIONS OF DIGITAL PRINTING for Flooring Materials and Pile Fabrics

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- THE CONQUEROR OF IMPOSSIBLE -

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COMPANY PROFILE

Atmax specializes in the R&D, manufacturing, sales and service of digital ink-jet printing technology and equipment. With a new breakthrough technology in the carpet printing, blanket printing and other high pile products.

Atmax R&D and technical strength has reached the international leading level, and devoted to intellectual property protection. Atmax already has obtained 22 invention patents (19 domestic invention patents, 2 in the United States, and 1 in the EU), including 13 utility patents.

Atmax focuses on innovative research of digital printing line, supported by the National Digital Printing Engineering Technology Center and Enterprise Research Institute, to enhance the company's international competitiveness, comprehensively promote the upgrading of the carpet industry structure, and achieve green and environmental- friendly production solutions.

Domestic Invention Patents 19

USA 2

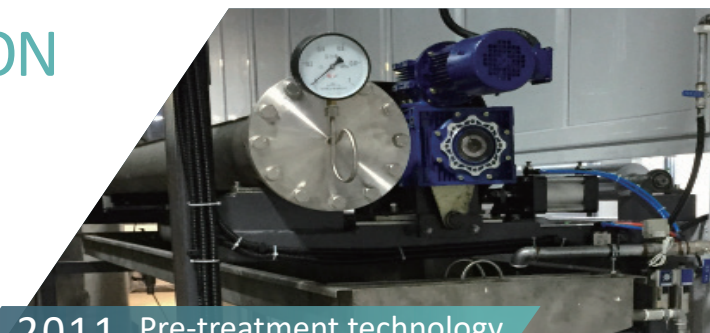
EU1



DEVELOPMENT HISTORY



TECHNICAL INNOVATION



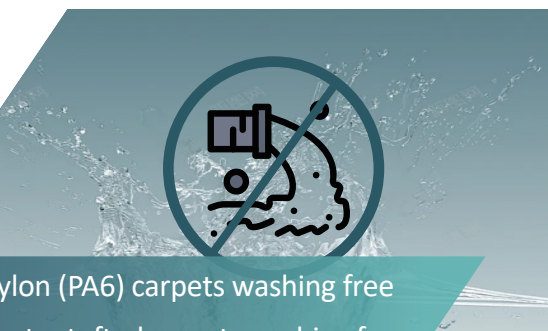
2011 Pre-treatment technology

2012 Colorless ink technology

**PENETRATION
TO BOTTOM**



2013 Nylon (PA6) carpets washing free
2025 Polyester tufted carpets washing free



2017 World's first manufacturer of cationic ink
2020 Light color ink technology application



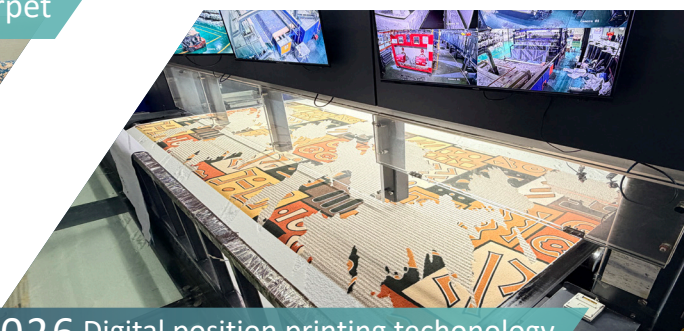
2018 Revolutionary printer shelf up to 128pcs heads



2023 Digital printing of woven carpet



2026 Digital position printing technology



ADVANTAGES of Digital Printing



24 hour printing



Efficient and
convenient ink supply
station



Scanning resolution
up to 2400 dpi



Customized
production



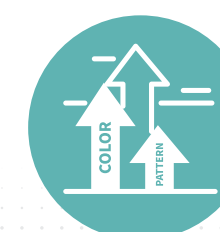
Washing free (PA6,
Polyester)



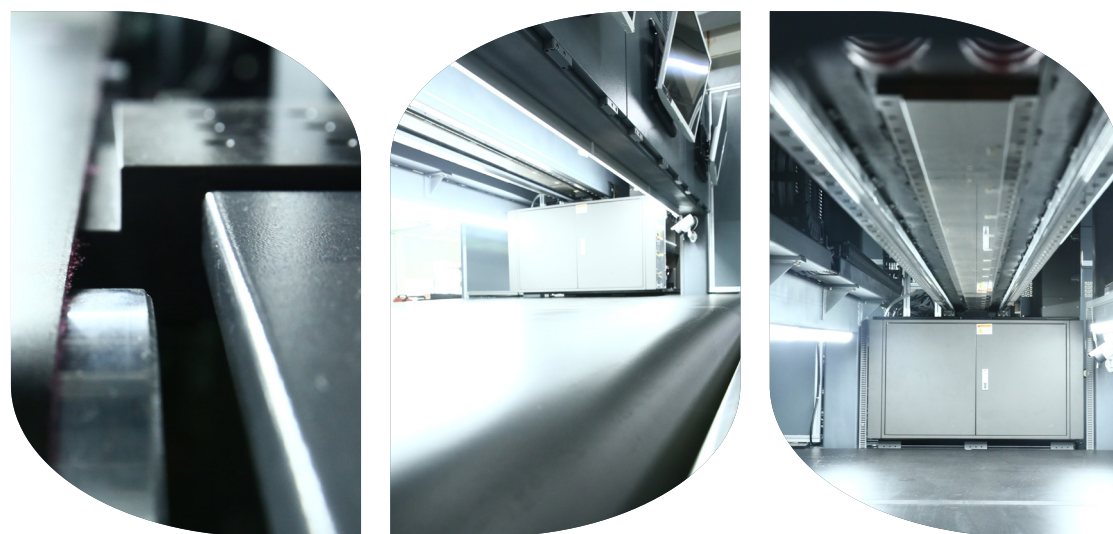
No request on min.
order quantity



Easy operation



No color limit



PRINTER HIGHLIGHTS

- Independent negative pressure control for each ink channel**
 According to different customer's needs, the general configuration of ink channel are 4 colors, 6 colors, 7 colors, or 8 colors. The negative pressure required for each color is slightly different, and the independent negative pressure control makes the inkjet of each color more precise and does not affect each other. Improve printing efficiency, with better performance.
- Negative pressure automatic follow system**
 Due to changes in the external environment, the negative pressure value generated by the negative pressure generator will also change, and the negative pressure follow system will automatically compensate for the negative pressure changes caused by changes in external conditions, thereby maintaining negative pressure stability. The negative pressure is closely related to printing inkjet, reducing the effect of color difference caused by negative pressure changes.
- Unique and reliable guide belt lifting system**
 To improve the overall safety of the equipment, the printheads assembly is always in the highest position during the movement process to avoid possible rubbing with other components.
- Design of hanging printheads assembly driven by linear motor**
 The design of non-contact drive can avoid wear and effectively reduce the load on the guide rail. Low noise and extended service life. Reducing mechanical response time and increasing motion speed can increase printing speed.

- Overall framework structure**
 It can effectively and significantly reduce rack shaking caused by printheads assembly movement, ensure equipment integrity, and avoid printing defects.
- Isolation design between operation area and printing area**
 Protecting the safety of operators.
- Independent simultaneous cleaning of multiple printheads**
 Customers can choose the printheads that need to be cleaned according to the status of the printheads, so as to reduce the waste generated by the cleaning.
- Overall moisturizing printheads**
 The moisturizing effect of the printheads is significantly improved, avoiding the blockage caused by drying.
- Stainless steel gear pump for ink supply**
 Eliminate frequent replacement of peristaltic pump tube and reduce routine maintenance costs.
- Floating ink collection device**
 Collect floating ink generated during the printing process to improve the quality of printed patterns and avoid environmental pollution.





Digital Position Printing

Creates 3D Spatial Art Aesthetics

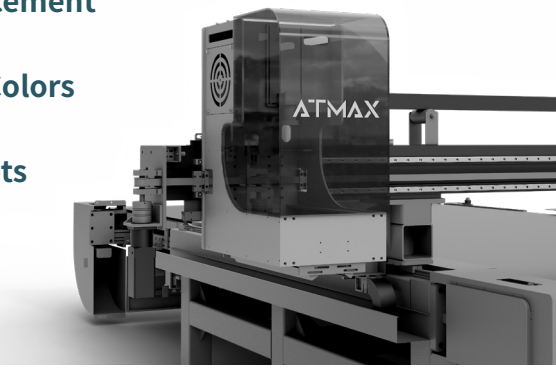
Breaking free from the constraints of traditional tufting&weaving, it delivers the 3D artistic texture of hand tufting and embossed carved carpets.

Revolutionizing intelligent digital printing technology, it enables efficient production of artistic carpets for spatial decoration.

Suitable for high-end custom carpets and designer original art carpets for hotels, clubs, exhibition halls, residential spaces and other scenarios.

Five Core Highlights

- Pre-scan Alignment, No Pattern Misplacement
- Targeted Ink Control, Clear Separated Colors
- Direct Printing on Finished Blank Carpets
- Flexible Production for All Order Sizes
- Vibrant, True-to-Life Color Output



Position Printing Comparison

Item	Traditional Tufted &Woven Jacquard Carpet	Atmax Digital Position Printed Carpet
Production process	Patterns tufted &woven on loom, design restricted	Weave blank carpets first, then digital print freely
New Product Cost	Expensive custom molds and sampling fees	Low sampling cost via digital files
Design Limits	Limited patterns/colors	Unlimited patterns/colors
Production efficiency	Long debugging time for new design, low output	Switch designs instantly, higher production efficiency
Order Type	Long-term large-batch fixed styles	Personalized custom, small batches and artistic designs
Overall Cost	High process investment and overall cost	Lower production cost with better performance



ATMAX INKS

ATMAX ink jet printing solution

ATMAX provide total solutions of digital printing, paired with acid, dispersed, and cationic inks. Successfully landed in the markets, and created a revolutionary carpet production method and applied high-resolution digital printing technology to the production of classic polyester, modified polyester, polyamide, acrylic, wool, cotton, etc. products.

Perfectly matched with ink jet digital printing equipment

The ink perfectly matches the Spectra Starfire industrial printheads and has passed a series of very rigorous printing tests in printheads applications. Realize the perfect combination of ink and printing equipment, ensuring smooth printing without damaging the nozzle.

ATMAX acid ink -----The preferred ink for nylon and wool

Lighting fastness	level 5-6	Washing fastness	level 4	Rubbing fastness	level 4+
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ATMAX dispersed ink -----The preferred ink for polyester

Lighting fastness	level 5-6	Washing fastness	level 4+	Rubbing fastness	level 4+
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ATMAX cationic ink -----The preferred ink for acrylic

Lighting fastness	level 6-7	Washing fastness	level 4+	Rubbing fastness	level 4+
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The dye used in the ATMAX ink is purified and refined using advanced dye desalination technology. Not only does the ink have a bright and beautiful color, but it also passes various rigorous tests. What's more, using the ATMAX ink to print patterns with bright and realistic colors, it also has excellent printing smoothness and storage stability.

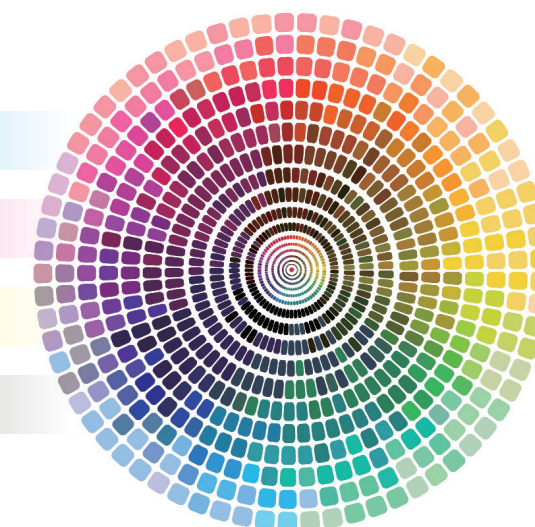


CYAN

MAGENTA

YELLOW

BLACK



ATMAX Ink Characteristics

01. Complete color spectrum, bright colors, wide color gamut, and accurate color light;
02. Excellent printing smoothness, even in industrial high-speed printing mode, without losing color gamut and smoothness;
03. Good ink storage stability;
04. After printing, the product has a soft touch, gorgeous and bright colors, and excellent color fastness;
05. Green and environmentally friendly, free from any harmful chemicals such as APEO, heavy metals, aldehydes, etc., all indicators meet the requirements of European and American chemical safety standards;
06. It can be achieved on nylon and modified polyester carpets without washing, with true "0" emissions and no pollution;

INDUSTRIAL PRINTHEADS

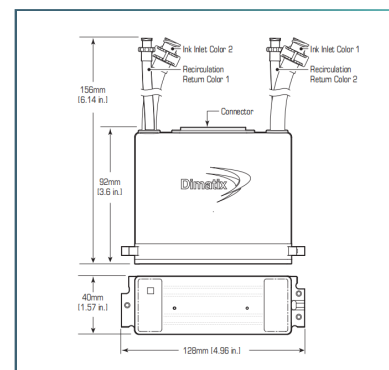
Industrial printheads

The StarFire printheads is equipped with the Dimatix print system, which is developed, built, and supports a complete inkjet printing system based on proprietary printheads technology.

StarFire SG series

Model	Ink droplet size	Frequency
SG1024/MA	30PL	to 35kHz
SG1024/LA	80PL	to 20kHz

The SG series printheads is purpose-built for today's demanding high-speed scanning and single-pass industrial systems designs. It is an easy to integrate, high performance, drop-on-demand printhead. Single color operation can be performed at a resolution of up to 400dpi, or dual color operation can be performed at a resolution of up to 200dpi, with staggered columns up to 400dpi resolution.



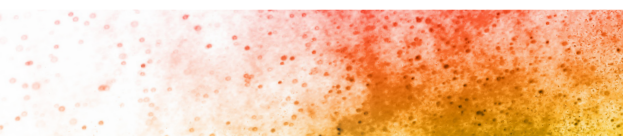
Characteristics of industrial printheads

01. Using materials that have been verified on-site results in a longer lifespan.

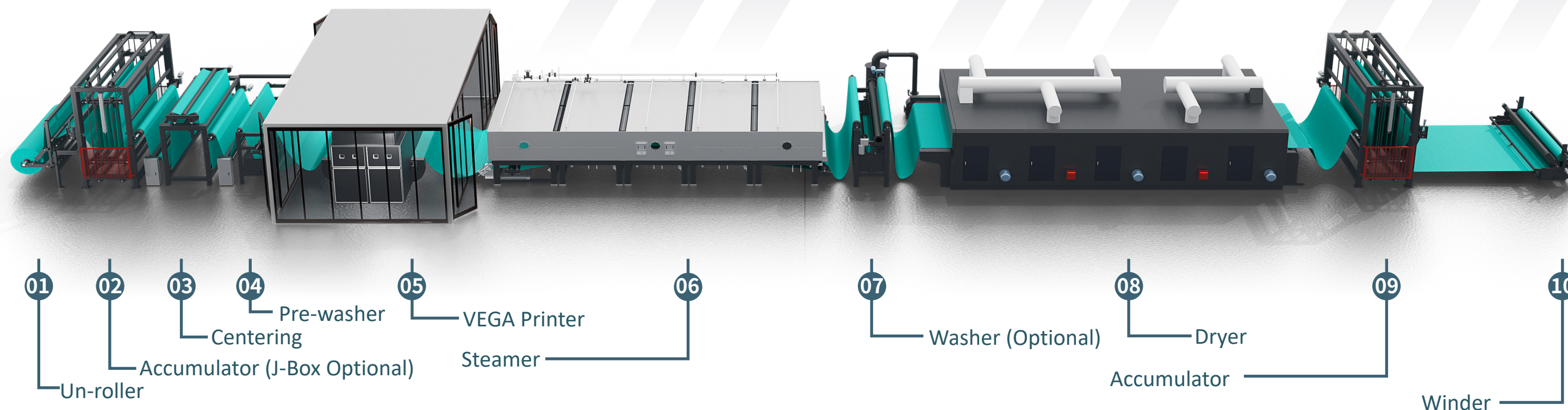
02. Provide ink circulation and 1024 independent channel nozzle arranged on replaceable metal plates for stronger wear resistance.

03. RediJet internal circulation technology continuously circulates ink through the ink chambers inside the nozzle and nozzle panel to extend working time, reduce downtime, and further reduce equipment startup time. Suitable for applications with high concentration ink, easily precipitated ink, and fast drying ink.

04. VersaDrop variable ink drop technology achieves seamless transition printing. The true application of ink droplet size control surpasses general grayscale printing without affecting production efficiency. Repackable nozzle structure significantly reduces customer usage costs.



PRODUCTION Line Introduction



Nylon/Wool/Acrylic/Modified Polyester Carpet

Specification and Technical Data

If you have any other requirements, please contact us

Printing width: 2.2m/3.2m/4.2m	Production speed: 0.5m/min - 7m/min
Printing resolution: 360dpi-1800dpi	Capacity: 120 sqm/hr- 1680 sqm/hr
Color channels: 4 / 8 / 16	Pile height: up to 20mm
Printheads Qty (per color): 2/4/8/12/16	Pile weight: up to 1400gsm (Tufted), up to 3000gsm (Woven)



Ink

Nylon & Wool: Acid Ink

Acrylic & Modified Polyester: Cationic Ink

Products (Not limited to examples of products)

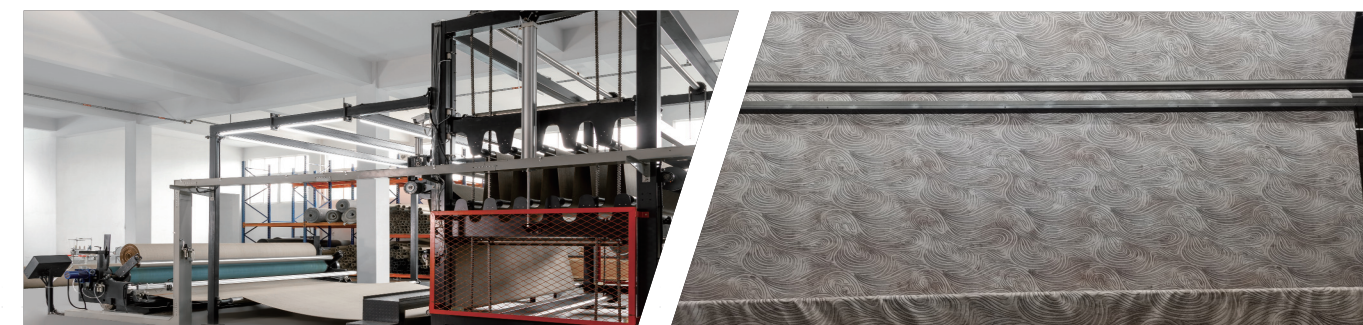
Wall to wall carpets

Rugs

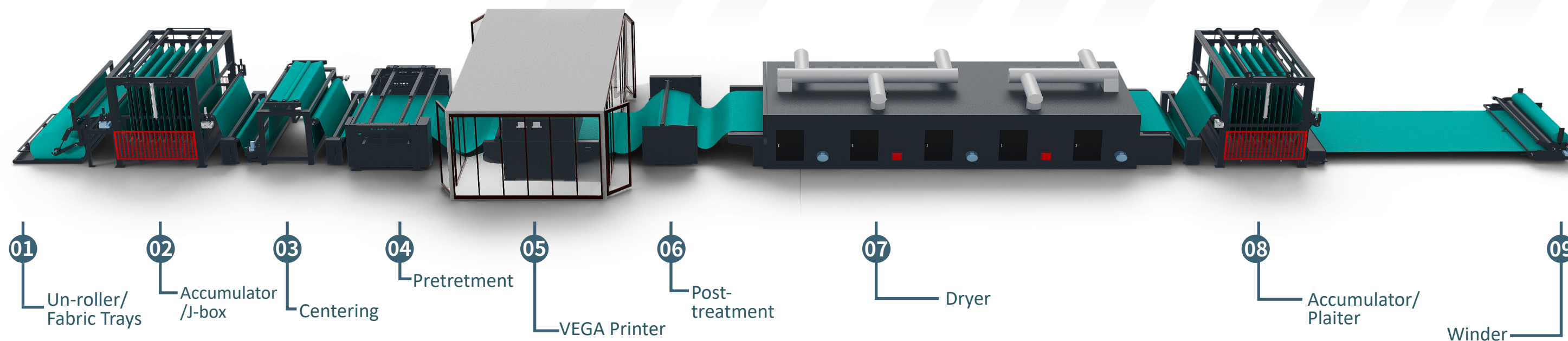
Commercial carpets

Carpet tiles

Mats



PRODUCTION Line Introduction



Classic Polyester Non Woven / Tufted / Woven Carpet

Specification and Technical Data

If you have any other requirements, please contact us

Printing width: 2.2m/3.2m/4.2m	Production speed: 0.5m/min - 7m/min
Printing resolution: 400 dpi-2400 dpi	Capacity: 120 sqm/hr - 1680 sqm/hr
Color channels: 4 / 8 / 16	Pile height: up to 20mm
Printheads Qty (per color): 2/4/8/12/16	Pile weight: up to 1400gsm (Tufted), up to 3000gsm (Woven)



Ink

Disperse Ink

Products (Not limited to examples of products)

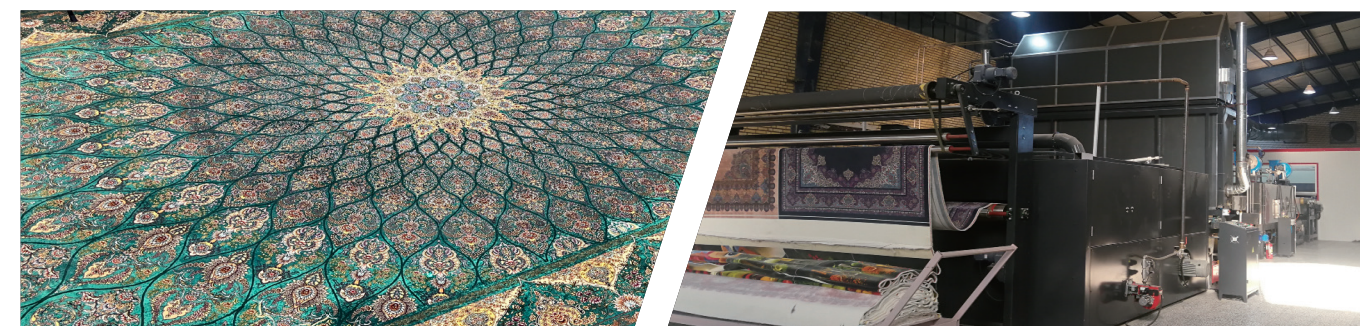
Wall to wall carpets

Rugs

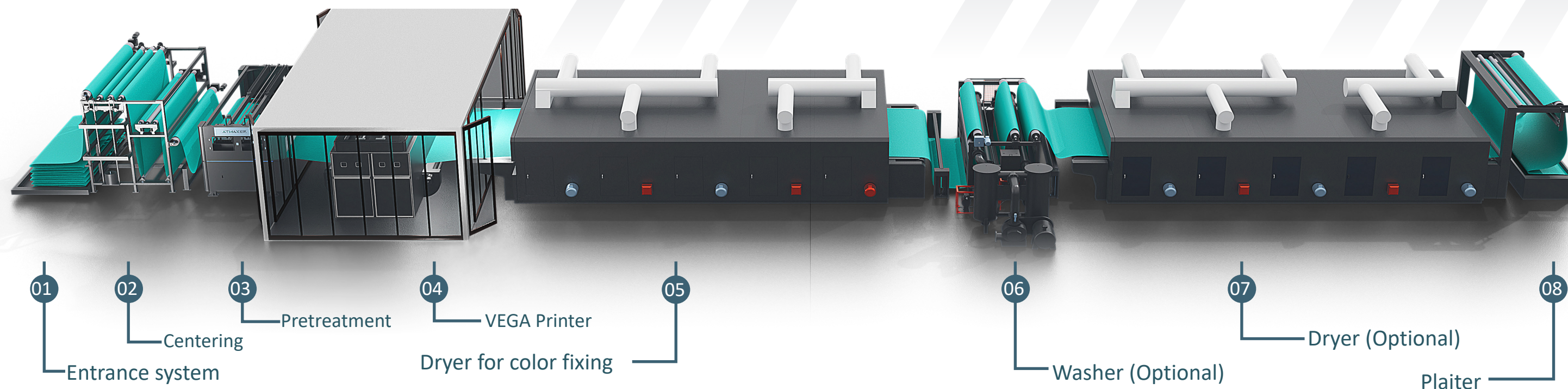
Commercial carpets

Carpet tiles

Mats



PRODUCTION Line Introduction



Classic Polyester Blanket

Specification and Technical Data

If you have any other requirements, please contact us

Printing width: 2.5m/3.2m/4.2m

Printheads Qty (per color): 2/4/8/12/16

Printing resolution: 400 dpi-2400 dpi

Production speed: 2 m/min-10 m/min

Color channels: 4 / 8 / 16

Capacity: 240 sqm/hr-1680 sqm/hr



Ink

Disperse Ink

Products (Not limited to examples of products)

Raschel blanket

Fleece

Flannel

Soft felt carpet

Chenille

Dornier

